D8S Smart Diagnostic Tool

User Manual



Xtoolonline

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IMPORTANT:

Before you start using or maintaining this unit, make sure to read this manual thoroughly. Pay close attention to the safety warnings and precautions provided.

Product Support Information

Technical Assistance

Website: https://www.xtoolonline.com

Mail: support@xtoolonline.com

ADD: Room 601, Block A, Zaoan Bussiness Building, Shigu Road, Xili Residential District, Nanshan District, Shenzhen

Corporate & Business: business@xtoolonline.com, sales@xtoolonline.com

Manuals / Technical Documentation

This manual is periodically revised to ensure the latest information is included.

Product Training Videos

Diagnostic Tool specific training videos are available on our website. Follow along and learn the basics of Diagnostic Tool operation with our free training videos.

Videos are product specific and are available at: https://www.xtoolonline.com /support/product-videos Click on the "Support"- "Product Videos"-"Diagnostic Tools" tab, select the applicable Diagnostic Tool, then select the training video you want to watch.

Safety Information

For your safety, the safety of others, and to prevent damage to devices and vehicles, it is crucial to read and understand all safety instructions presented in this manual before operating or coming into contact with the device.

General Safety Instructions:

- Read and Understand: Ensure that all operators and individuals in the vicinity of the device have read and understood the safety instructions.
- Proper Use: Only use the device as described in this manual. Always adhere to the safety messages and test procedures provided by the vehicle or equipment manufacturer.

- Knowledge and Skill: The automotive technician must be knowledgeable about the system being tested. Familiarize yourself with proper service methods and test procedures.
- Acceptable Testing Practices: Perform tests in a manner that ensures your safety, the safety of others, and prevents damage to the device and the vehicle.

Specific Responsibilities:

- Refer to Manufacturer Guidelines: Always consult and follow the safety messages and applicable test procedures from the vehicle or equipment manufacturer before using the device.
- Use Appropriate Tools and Techniques: Due to the variety of test applications and product variations, it's important to use the correct tools and techniques for each specific task.
- Anticipate Safety Requirements: While this manual provides comprehensive guidance, it cannot cover every potential situation. Technicians must be prepared to handle unforeseen circumstances safely.

By adhering to these guidelines and responsibilities, you can ensure a safe and effective working environment while using the device.

Safety Messages

Safety messages are included to prevent both personal injury and damage to equipment. Each safety message begins with a signal word that indicates the level of hazard involved.

 **Danger**

This signal word indicates "an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders."

 Warning

This signal word "indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders."

Safety Instructions

The safety messages provided here address situations that XTOOL is aware of. XTOOL cannot anticipate, evaluate, or provide advice on all potential hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

Danger

When the engine is running, ensure the service area is well ventilated or connect a building exhaust removal system to the engine exhaust. Engines emit carbon monoxide, a colorless and poisonous gas that can impair reaction times and lead to serious injury or even death.

Safety Warnings

Safe Environment: Always perform automotive testing in a safe environment.

Eye Protection: Wear safety eye protection that meets ANSI standards.

Avoid Hazards: Keep clothing, hair, hands, tools, and test equipment away from all moving or hot engine parts.

Ventilation: Operate the vehicle in a well-ventilated work area to avoid inhaling poisonous exhaust gases.

Transmission and Brakes: Put the transmission in PARK (for automatic) or NEUTRAL (for manual) and ensure the parking brake is engaged.

Wheel Blocks: Place blocks in front of the drive wheels and never leave the vehicle unattended while testing.

Ignition System Caution: Be extra cautious around the ignition coil, distributor cap, ignition wires, and spark plugs, as these components generate hazardous voltages when the engine is running.

Fire Extinguisher: Keep a fire extinguisher suitable for gasoline, chemical, and electrical fires nearby.

Test Equipment Connections: Do not connect or disconnect any test equipment while the ignition is on or the engine is running.

Clean Equipment: Keep the test equipment dry, clean, and free from oil, water, or grease. Use a mild detergent on a clean cloth to clean the outside of the equipment as necessary.

No Driving While Testing: Do not drive the vehicle and operate the test equipment simultaneously to avoid distractions that may cause an accident.

Service Manual Reference: Refer to the service manual for the vehicle being serviced and adhere to all diagnostic procedures and precautions. Failure to do so may result in personal injury or damage to the test equipment.

Battery Check: Ensure the vehicle battery is fully charged and the connection to the vehicle DLC is clean and secure to avoid damaging the test equipment or generating false data.

Avoid Electromagnetic Interference: Do not place the test device on the vehicle's distributor, as strong electromagnetic interference can damage the device.

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1. Introduction

The XTOOL D8S Diagnostic Tool interfaces with the electronic control unit(ECU) of a vehicle to retrieve diagnostic trouble codes (DTCs), access data stream information, and command active tests(bi-directional control tests). Various vehicle control systems, such as engine, transmission, and anti-lock brake system (ABS), SRS(Airbag) system, Chassis, Body and etc are readily diagnosed using this Diagnostic Tool. The Diagnostic Tool is capable of graphing up to eight(8) live data parameters on a single screen, and also includes ECU information. D8S has the diagnostic topology mapping function .

Experience enhanced diagnostics with the XTOOL D8S. Equipped with a 1.5GHz Quad-core processor, 4GB RAM, and 64GB storage and 8-inch touchscreen, improving user experience. it offers swift operation and seamless multitasking. Additional features include a collapsible kickstand, built-in speaker and microphone, rear camera, and a 5000mAh 7.2V battery for extended use.

It also supports full system diagnostics, full OBD II functions, activation tests, coding, vehicle-specific functions under each vehicle's software ,FCA, ADAS calibration, ECU configurations, VAG guided functions, PMI, and 42 special functions.

This chapter introduces the basic features of the Diagnostic Tool, including the control buttons, data ports, battery pack, and power sources. Technical Specifications are provided at the end of this chapter.

1.1 Data and Power Connections

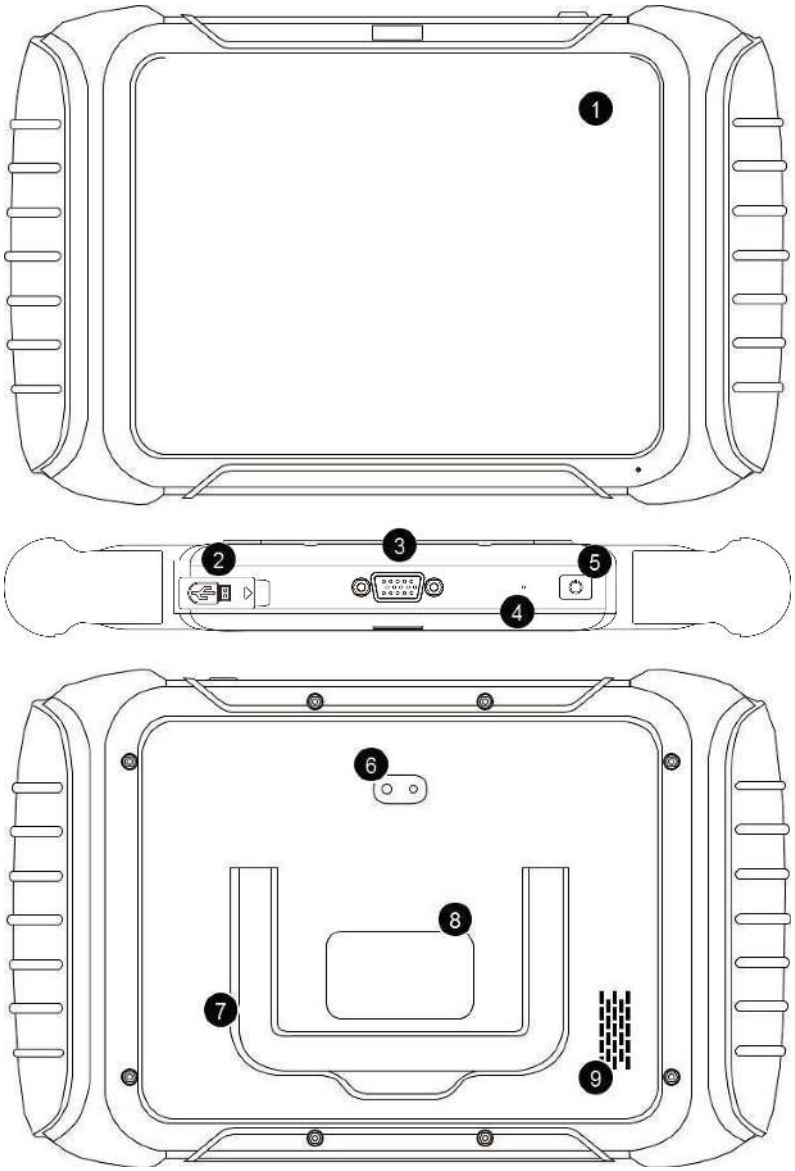


1.2 Battery Pack and Stand



1.3 Main Ports of The Tablet

TABLE



1. 8-inch touch screen
2. Type-C Port
3. VGA Port
4. Reset hole
5. Power Button
6. Rear Camera
7. Holder
8. Nameplate
9. Speaker

1.4 Power Sources

XTOOL D8S Diagnostic Tool can receive power from either of the two sources:

- Internal Battery Pack
- AC Power Supply
- Charging Dock

1.5 Internal Battery Pack

The XTOOL D8S Diagnostic Tool can be powered by its internal rechargeable battery pack. When fully charged, the battery allows for approximately 3.5 hours of continuous operation. To recharge the battery, the Diagnostic Tool must be connected to the AC Power Supply and plugged into a live AC power source. This charging process ensures the tool remains powered and ready for extended diagnostic sessions without interruption.

1.6 AC Power Supply

You can power the Diagnostic Tool by connecting it to a standard AC outlet using the AC power supply. The connector at the end of the output cable from the AC power supply should be plugged into the DC power supply input jack located on the top of the Diagnostic Tool or the device can be charged by placing it on the charging dock. It's important to use only the AC power supply that was provided specifically for this purpose to ensure proper and safe operation of the tool.

1.7 Technical Specifications

Item	Description/Specification
Display	8 Inch Touch Screen, 1024 x 768 Resolution
Operating System	Android 10.0
Processor	1.5GHz Quad-core Processor
Memory	4G RAM, 64G ROM
Connectivity	Bluetooth 5.0, Wi-Fi(2.4GHz & 5Ghz), Type-C
Operating Method	Flat Panel Touchscreen
Upgrade Method	Device Connects to WIFI for Online Upgrade

Battery	7.2V Rechargeable Li-ion Battery, 5000mAh
Tested Batter Life	3.5 Hours
Power Supply	Input: 100-240V--50-60Hz 0.5V Max Output: 5.0V-3.0A 15.0W/9.0V-2.22A 19.98W/12.0V-1.67A 20.04W
Dimensions	270*175*30(MM)
Free Renewal Update	3 Years
Charging Method	Type-C Charging (Fast Charging)
Supported Protocols	CAN FD/DOIP/FCA
USB Port	USB2.0
WIFI	2.4G/5G
Sensor	Gravity Accelerometer/Ambient Light Sensor
Audio	Microphone
Speaker	Built-In Speaker
Camera	8 Mega Pixel
Net Weight	1.1 KG
Gross Weight	2.56 KG
Operating Temp Range(Ambient)	32°F ~ 104°F (0°C ~ 40°C)
Storage Temp(Ambient)	14~122°F (-10~50°C)
Operating Humidity	<90%

1.8 What's In The Box

Name	QTY
Tablet	1
Type-C to Type-C Charger Cable	1
Type-C to Type-A Adapter (Connect to PC)	1
Power Supply Charger Adapter EU	1
Power Supply Charger Adapter US	1

Power Supply Charger Adapter UK	1
DB15 Main Cable	1
OBDII-16 Adapter	1
Color Carton	1
Packing List	1
Quick Start Guide	1
Tool Case	1
Certificate of Quality	1

2.Getting Started

Ensure that the Diagnostic Tool is adequately powered by either checking its battery status or connecting it to an external power supply (refer to Power Sources on page 2 for details).

NOTE:

The images and illustrations depicted in this manual may differ from the actual ones.

Turn on/off or Force Shutdown

The following sections explain how to turn the XTOOL D8S Diagnostic Tool on and off, as well as how to perform an emergency shutdown.

2.1 Turning On

To turn on the XTOOL D8S Diagnostic Tool, press and hold the power button located on the top right of the device for approximately five seconds. The tool will automatically power on if the internal battery pack has sufficient charge or if it is connected to an AC power supply. If the internal battery pack is completely drained, you need to charge it for more than 6 hours and then turn it on again.

2.2 Turning Off

To turn off the XTOOL D8S Diagnostic Tool, press and hold the power button for more than three seconds. The tool will then automatically power off.

IMPORTANT:

Before turning off the XTOOL D8S Diagnostic Tool, make sure to terminate all vehicle communications. If you try to power off the tool while it is still communicating with the vehicle, a warning message will appear. Forcing a shutdown during communication could potentially cause issues with the ECM (Engine Control Module) on certain vehicles. It's crucial never to disconnect the DBD-15 main cable while the Diagnostic Tool is actively communicating with the vehicle ECM.

2.3 Emergency Shutdown

During normal operation turn the Diagnostic Tool off using the Turning Off procedure above. The emergency shutdown procedure should only be used If the Diagnostic Tool does not respond to navigation or control buttons or exhibits erratic operation. To force an emergency shutdown, press and hold the power button for five seconds until the Diagnostic Tool turns off.

IMPORTANT:

Using the emergency shutdown procedure while communicating with the vehicle ECM may lead to ECM problems on some vehicles.

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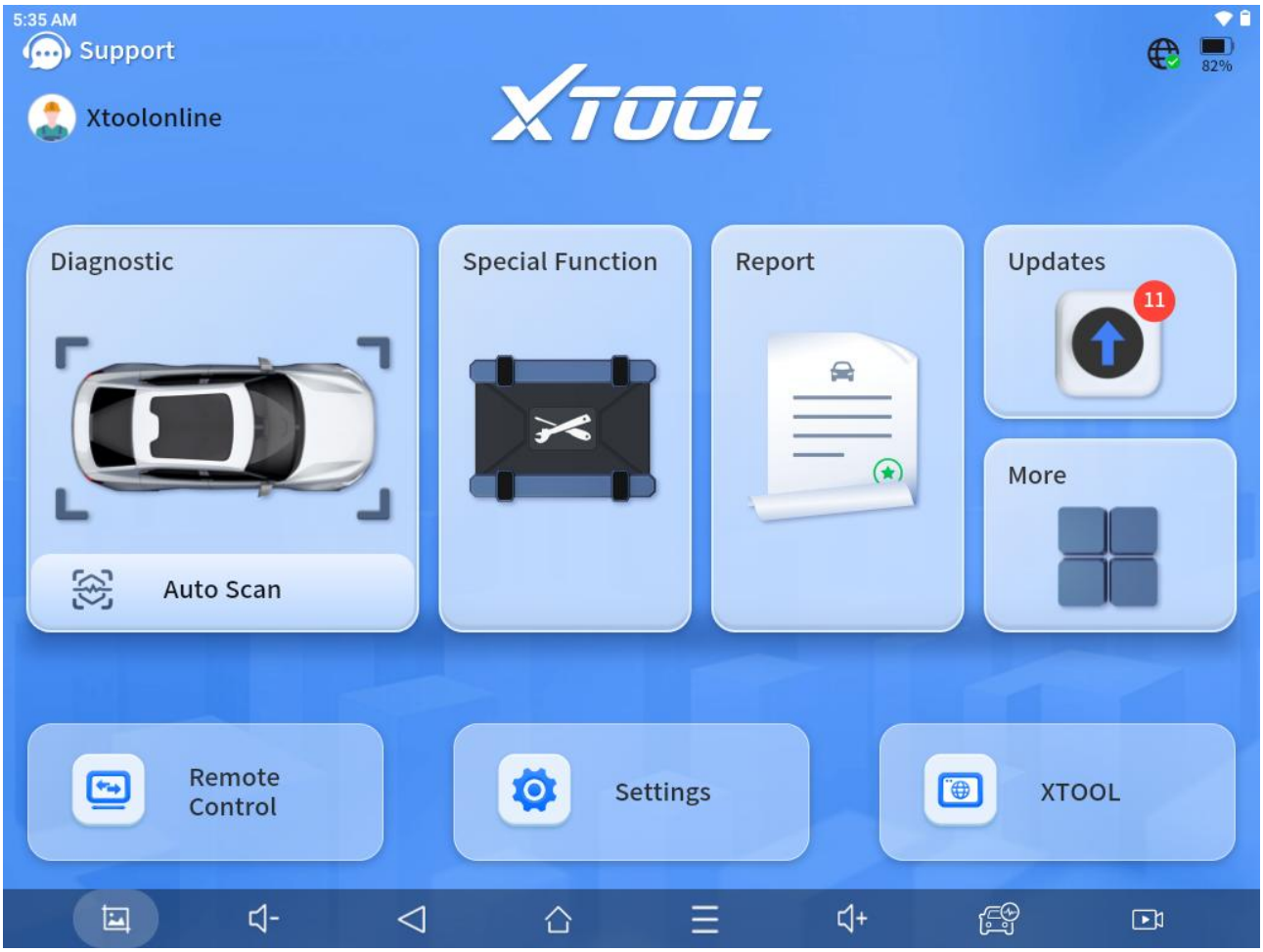
3. Get to Know the Diagnostic Tool

This chapter details the layout and icons of the main diagnostic screen and main screen of the Android tablet used with the Diagnostic Tool.

3.1 Diagnostic Screen Layout

When you turn on the Diagnostic Tool, it automatically starts the diagnostic program, and you will see the diagnostic screen appear. The Diagnostic Tool utilizes a hidden

toolbar located at the bottom of the diagnostic tablet. Swiping up from the bottom of the screen will reveal this toolbar for a period of 3 seconds. The section below will provide details about the layout of the diagnostic screen and describe the icons found on the toolbar.



3.2 Diagnostic Screen Icons

3.2.1 Auto Scan

The Diagnostic Tool automatically detects and decodes the VIN (Vehicle Identification Number), then proceeds to scan comprehensively through all available vehicle electronic control modules for diagnostics. This process ensures thorough assessment and identification of potential issues across the vehicle's systems.

3.2.2 Diagnostic

Clicking "Diagnostic" icon will bring up the diagnostic menu. From there, you can navigate using Auto VIN to automatically detect the vehicle's details, manually input

vehicle information such as make, model, year, and configurations for diagnostics, access the DEMO program, and perform OBD-II tests.

3.2.3 Special Function

This section covers the most commonly performed maintenance services used by both car repair Do-It-Yourselves and professionals for day-to-day auto maintenance tasks.

NOTE:

Functions with the same name may have different vehicle coverage for special functions on the main diagnostic menu compared to those under the diagnostic job menu.

3.2.4 Report

This section includes functions for diagnostic reports, data playback, and data viewing.

3.2.5 Updates

This section allow you to download diagnostic software programs individually or in batch.

3.2.6 More

This section enables you to perform several tasks:

- Set up the user account and workshop profile, if applicable.
- Check the subscription period.
- Access firmware information.
- Use the endoscope feature.
- View the user manual in PDF format.

3.2.7 Settings

In this section, you can customize the language of the Android tablet, choose units of measurement, configure USB mode and operating system settings, adjust the

volume and brightness levels of the tablet, and review information such as the App version, OS version, Serial Number of the Diagnostic Tool, and VCI number.

3.2.8 Remote Control

Clicking "Remote Control" icon will launch TeamViewer for remote control assistance. Ensure that TeamViewer is in "ready to connect" status before the scheduled remote assistance appointment. The TeamViewer ID will be displayed on the right side, and the connection status can be seen at the bottom left corner.

The "Remote Control" menu is generally used when you need tech support from us and we are not able to help you fix it via emails. Then we will set an appointment with you first at a time that is suitable for you and the engineers. You are not able to start a remote control without an appointment because we don't know that you started it. There are too many devices sold in the market, we are not able to remote with all customers if they start the remote at the same time without appointment.

3.2.9 XTOOL

This section provides information about how to contact us, including our social media accounts, for support or any other inquiries.

3.3 Hidden Toolbar Menu

Swiping up from the bottom of the touchscreen will reveal the toolbar for 3 seconds. Clicking the home button on this toolbar will bring up the main screen of the diagnostic tablet. On the tablet page, you can freely switch between horizontal and vertical screens. The following sections describe the layout and icons of the main screen.

Take a screenshot on what's on the screen.

Volume Down icon, press to decrease the volume of the speaker of the Android tablet.

Press to back one step from the current menu.

Home icon, press to go to the main screen of the Android tablet.

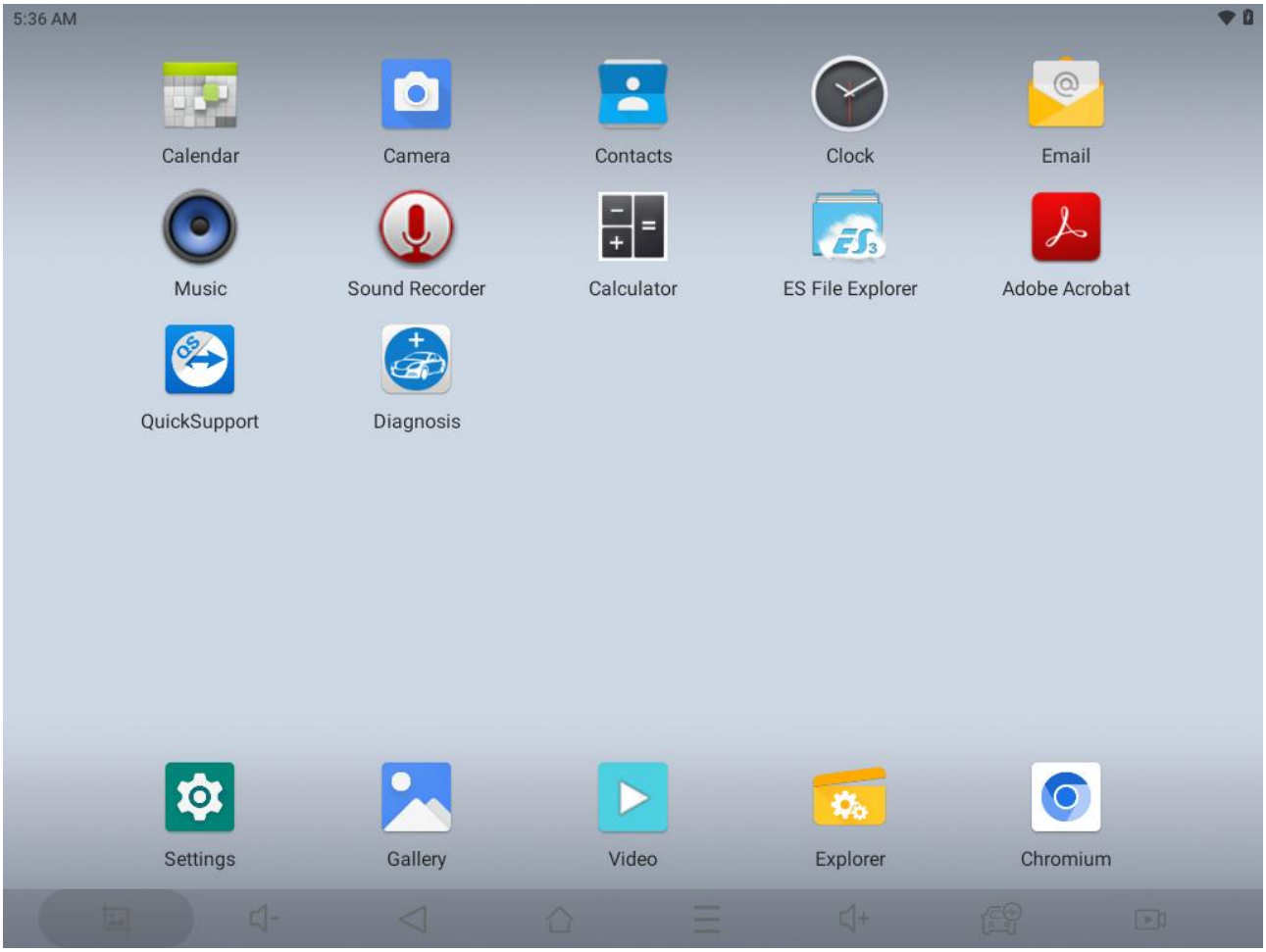
Volume Up icon, press to raise the volume of the speaker of the Android tablet.

Diagnostic program shortcut, press this icon to run the diagnostic program.

Screen Recording icon, press this icon to start recording the screen including the surrounding sound. Press the icon again to end the screen recording process.

Background cleanup icon, press the icon to clean up the background running of the APP. which can make the tablet run faster.

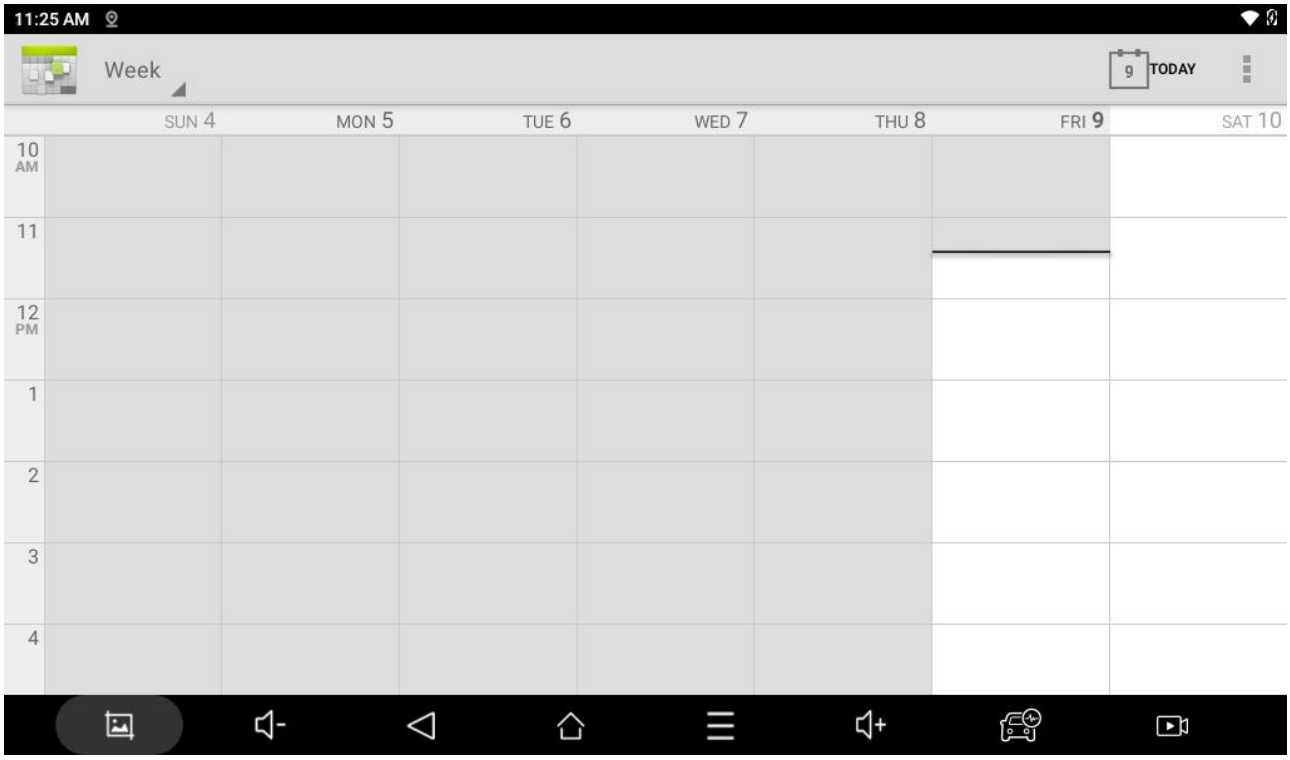
3.4 Main Screen Layout



3.5 Main Screen Icons

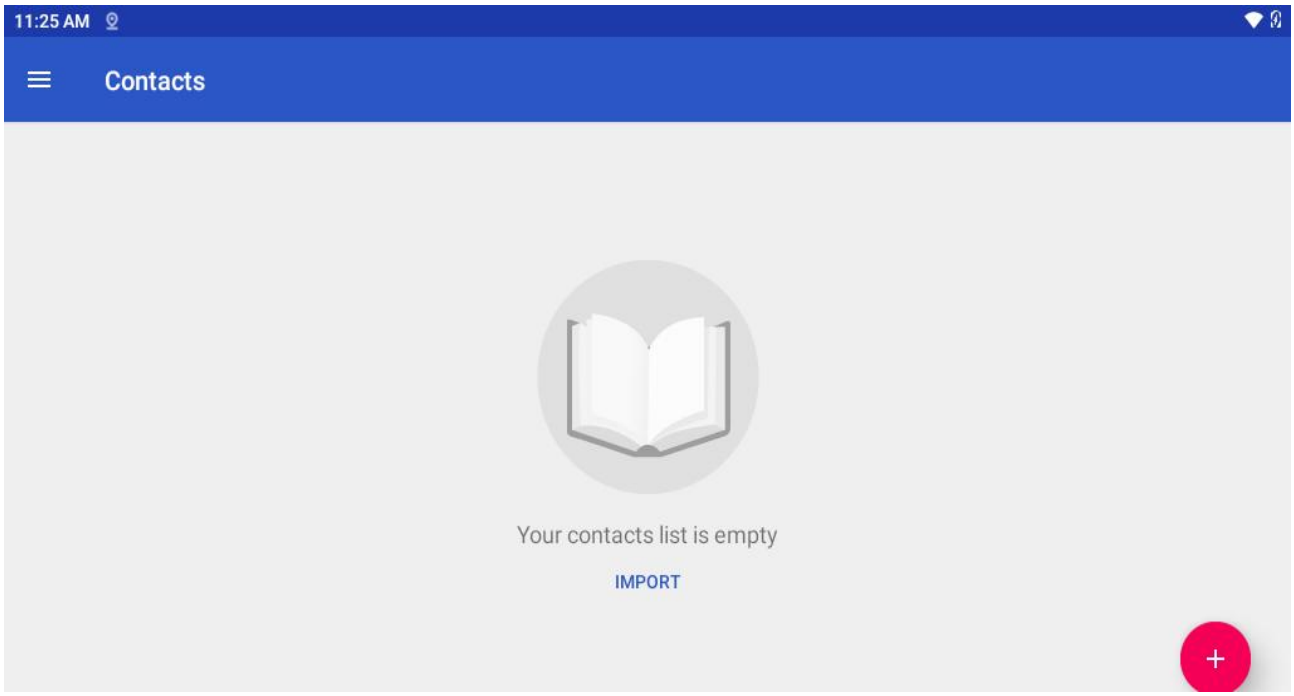
3.5.1 Calender

This function displays the calender in day, week and month.



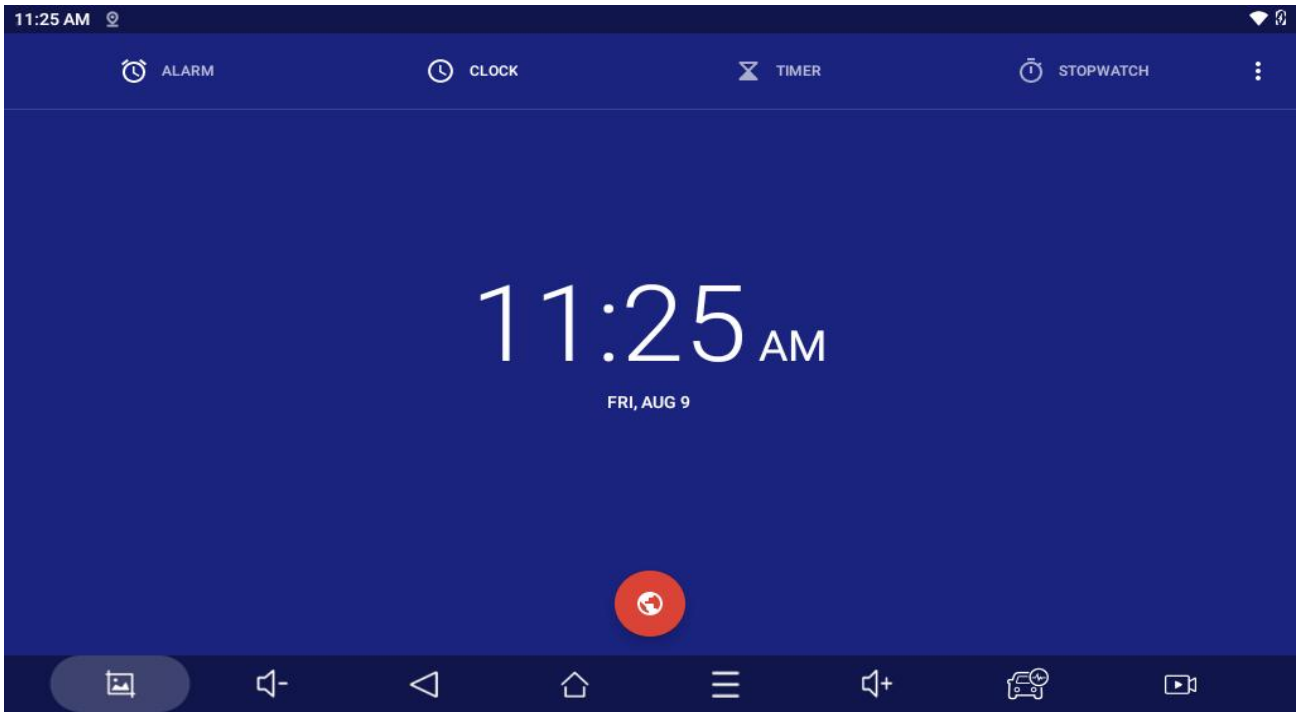
3.5.2 Contacts

This function enables you to manage your contact information. You can add a new contact by clicking the "+" icon at the bottom right, or import contacts in bulk from a VCF file by clicking "IMPORT".



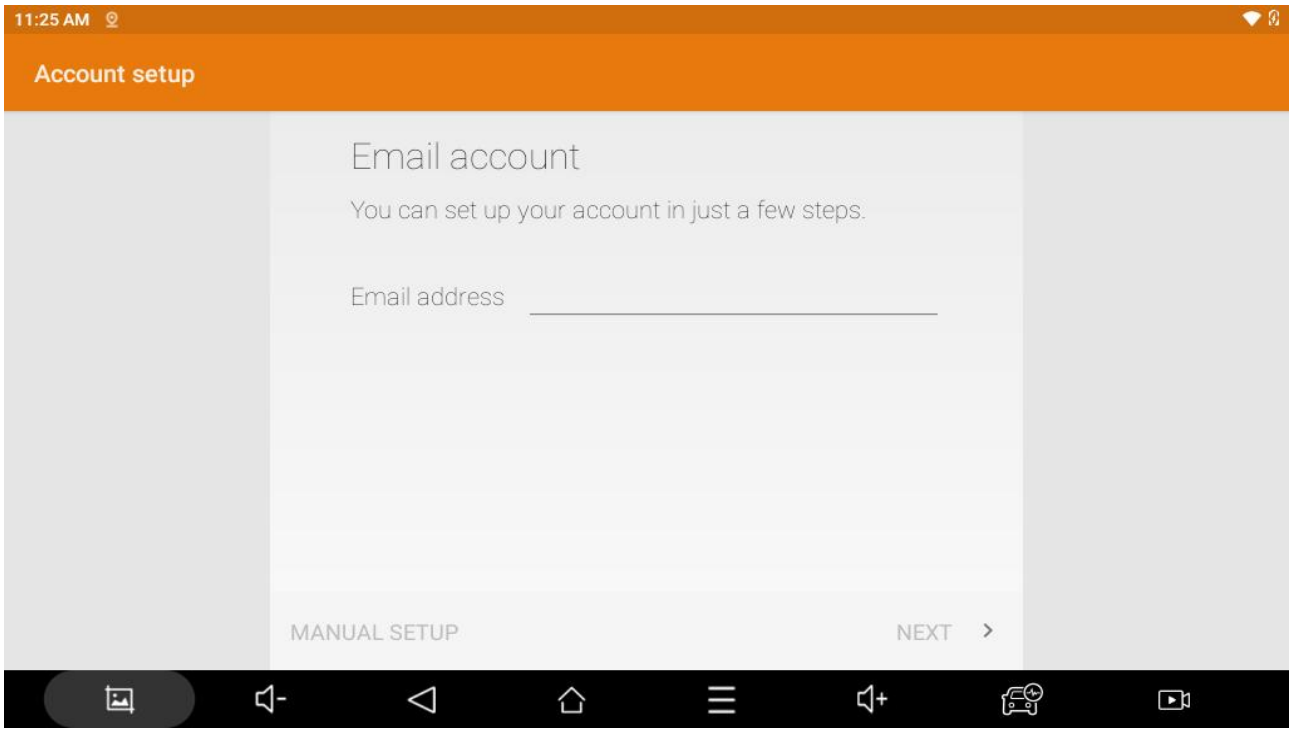
3.5.3 Clock

This function allows you to set alarms, timers, use the stopwatch, and access the clock.



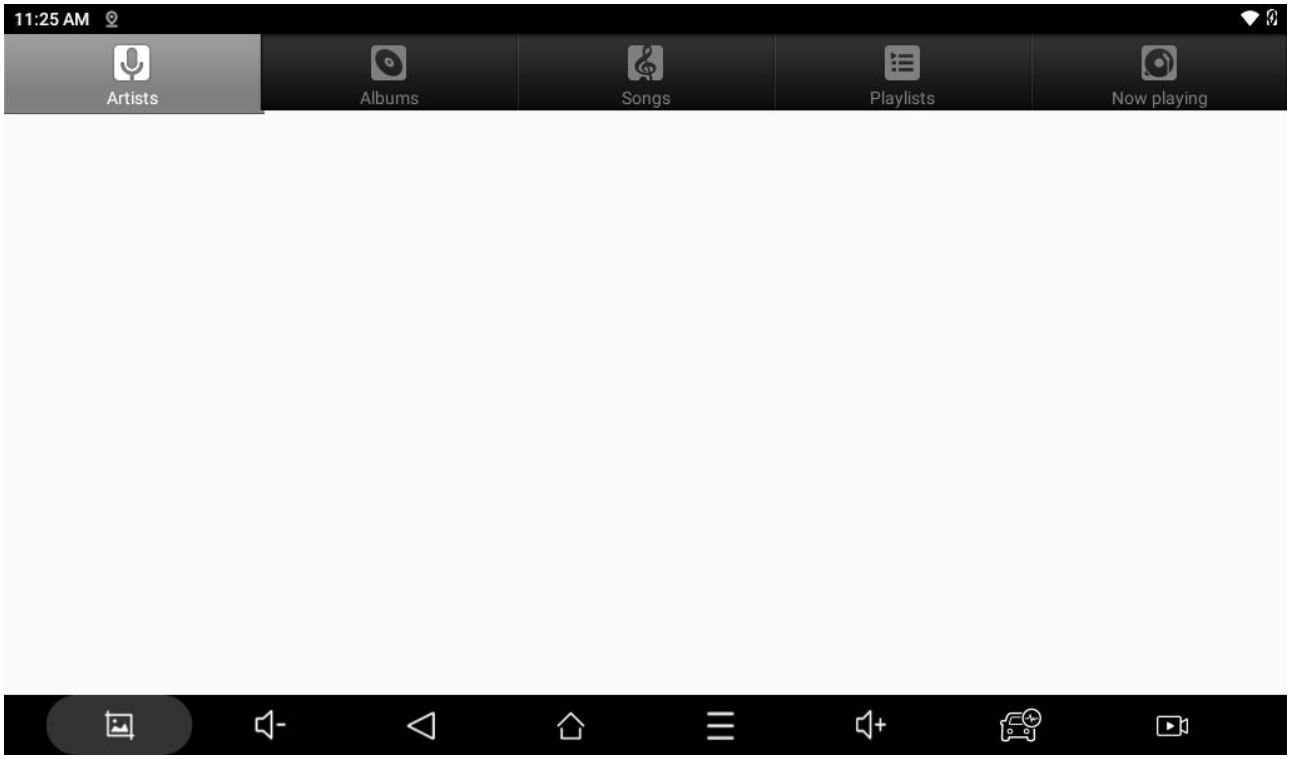
3.5.4 Email

This function lets you create a new email account for sending emails or sharing reports.



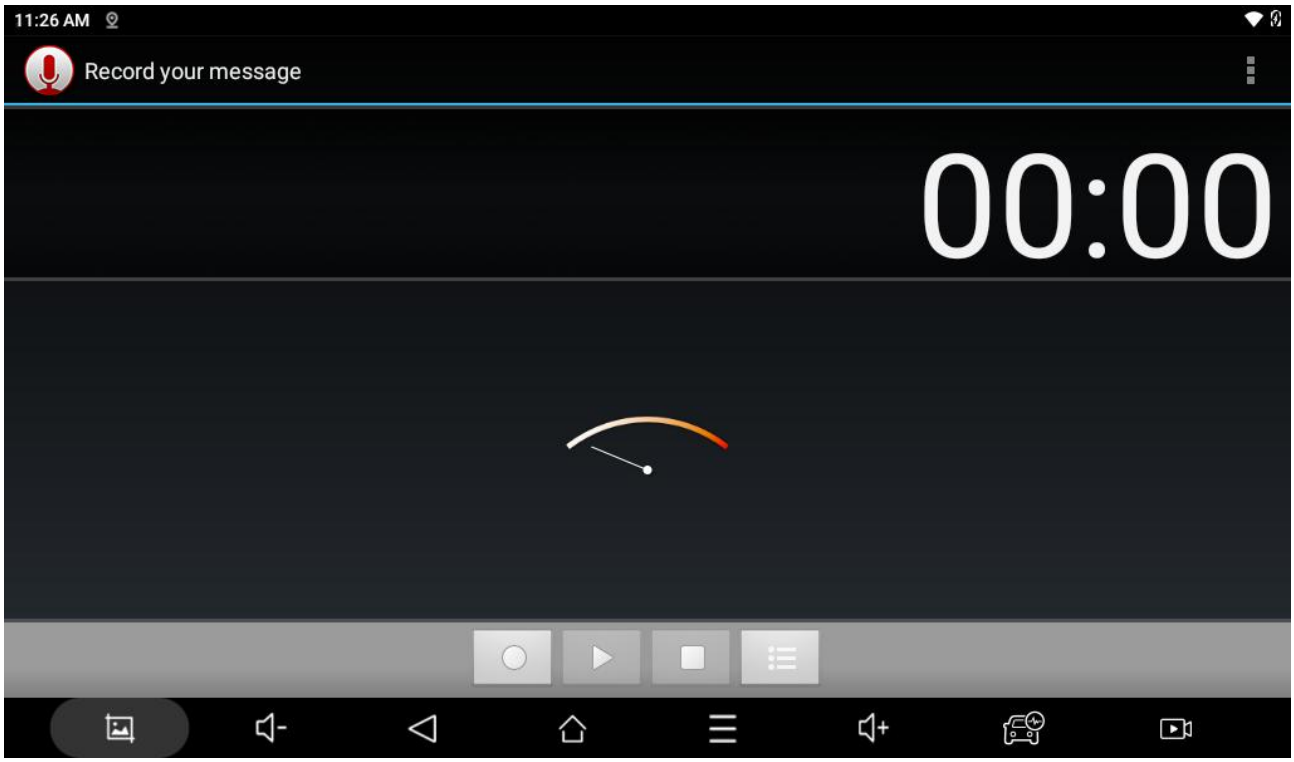
3.5.5 Music

This function allows you to add new songs, playlists, albums, artists, and more.



3.5.6 Sound Recorder

This function enables you to record a voice message.



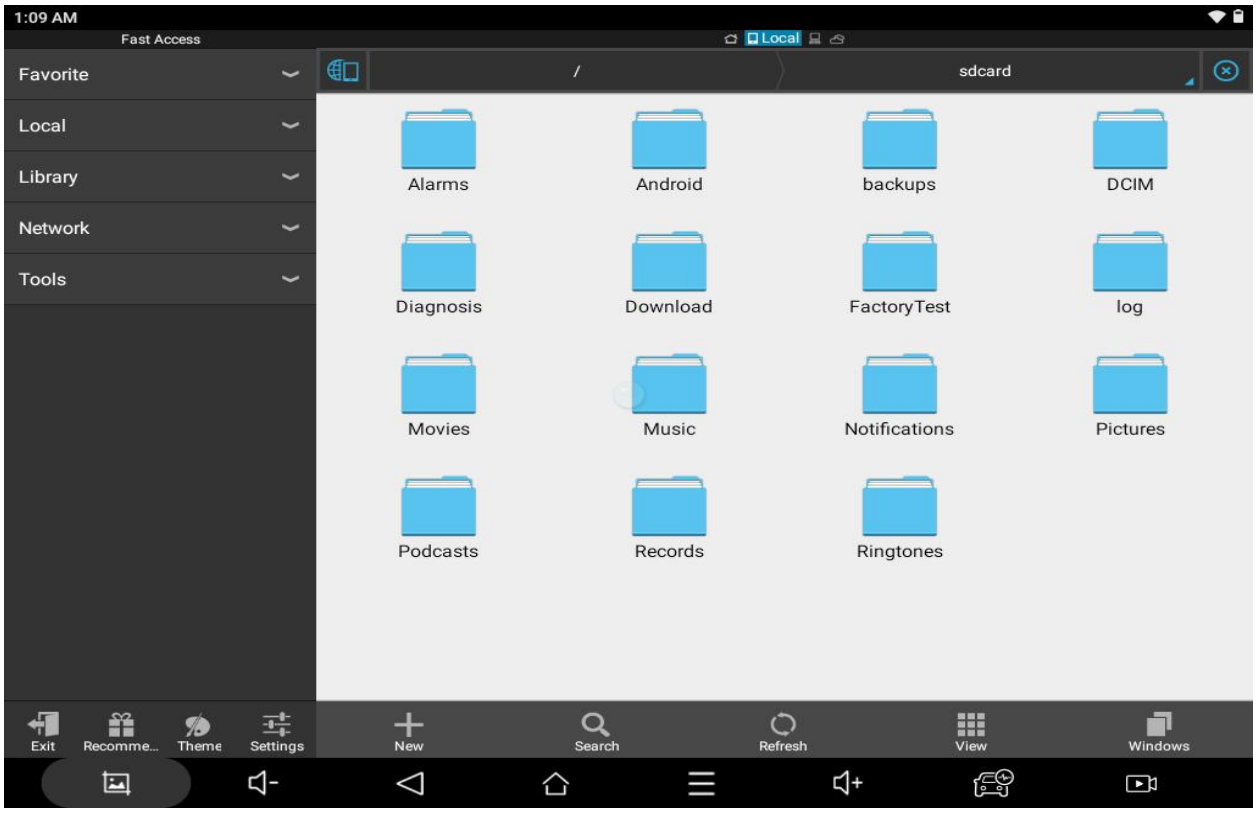
3.5.7 Calculator

This function opens the calculator.



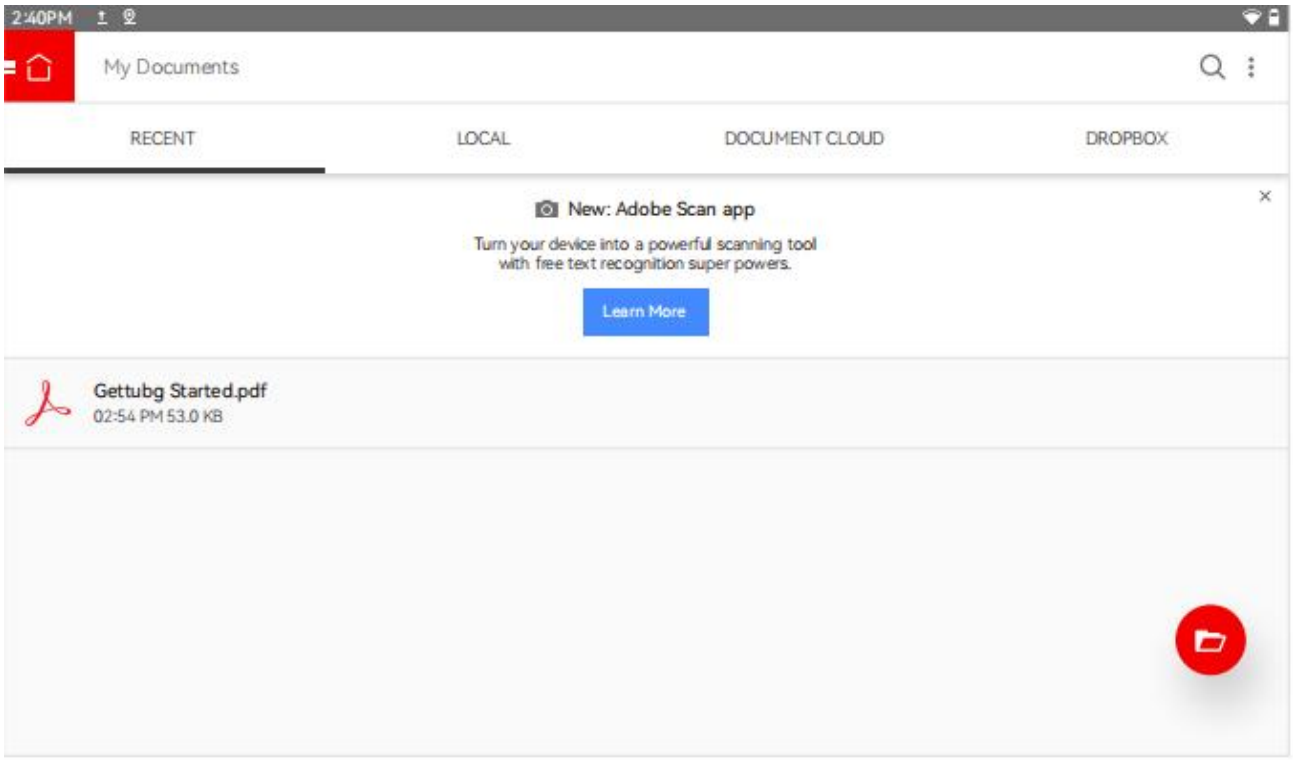
3.5.8 ES Files Explorer

This function allows you to manage documents, reports, files, and folders stored in the memory.



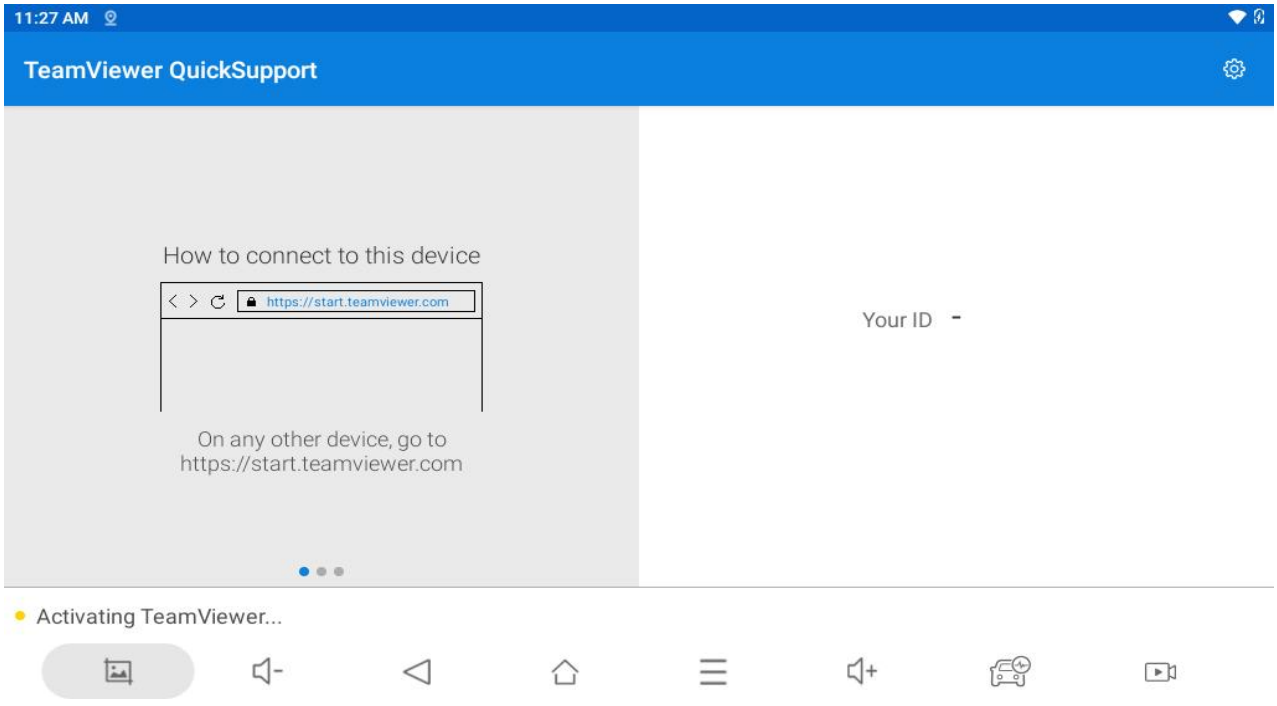
3.5.9 Adobe Acrobat

This function enables you to manage PDF files and access your Dropbox account after logging into your Adobe and Dropbox accounts.



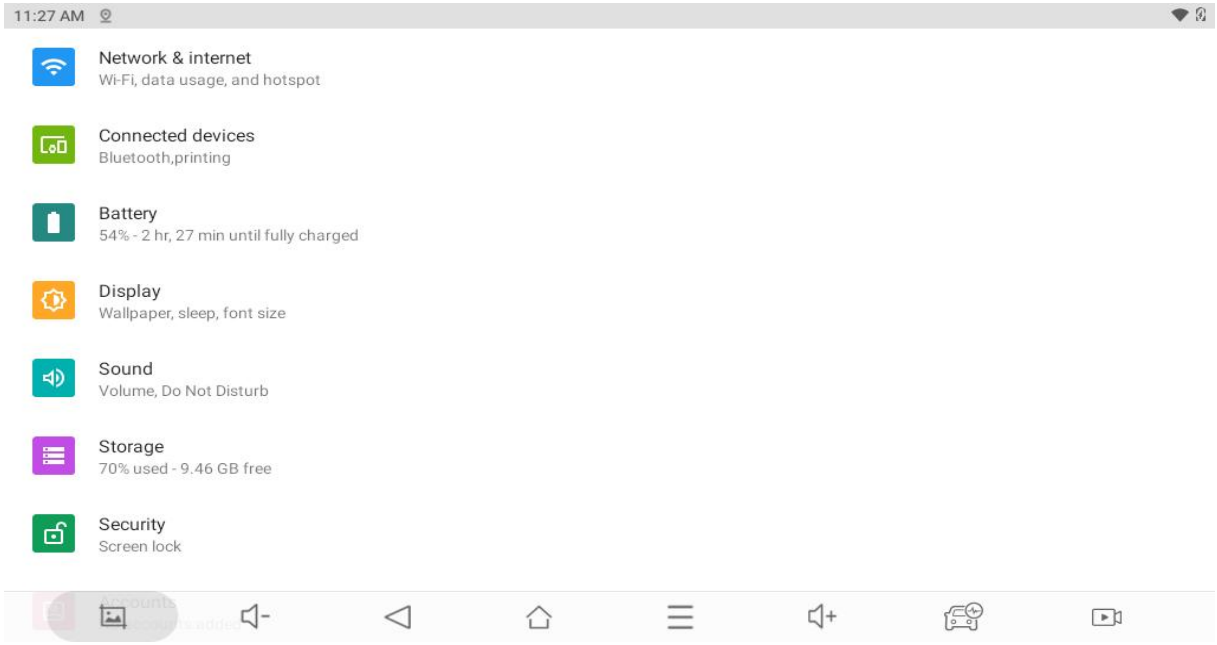
3.5.10 Quick Support

This function enables our tech support team to remotely control the Diagnostic Tool. This allows them to check for possible problems with the tool or assist you with navigation paths and other issues.



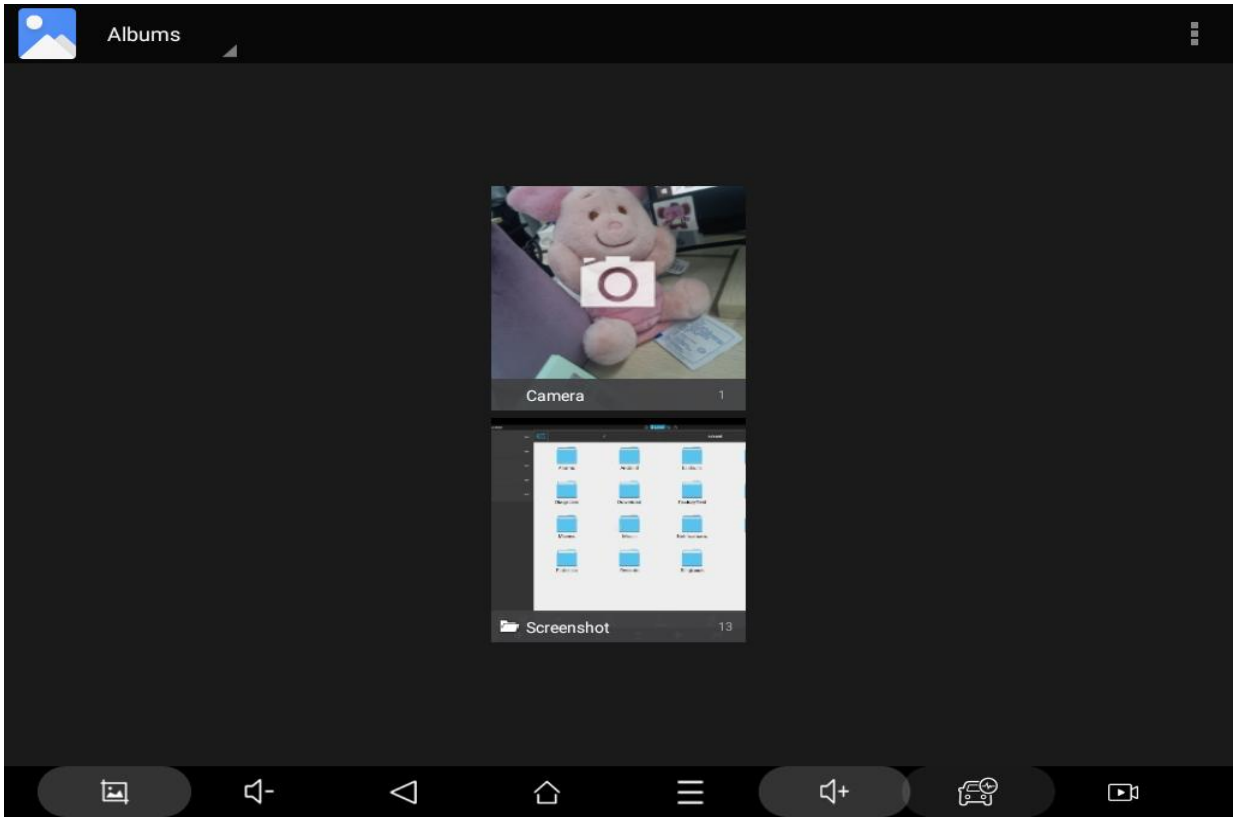
3.5.11 Settings

This function allows you to configure Android tablet settings, including Network & Internet connections, battery management, display settings, sound volume control, and checking memory storage.



3.5.12 Gallery

This function allows you to view screenshots and screen recordings.



3.5.13 Camera

This function activates the camera at the back of the Diagnostic Tool, allowing you to take pictures of the vehicle problem.



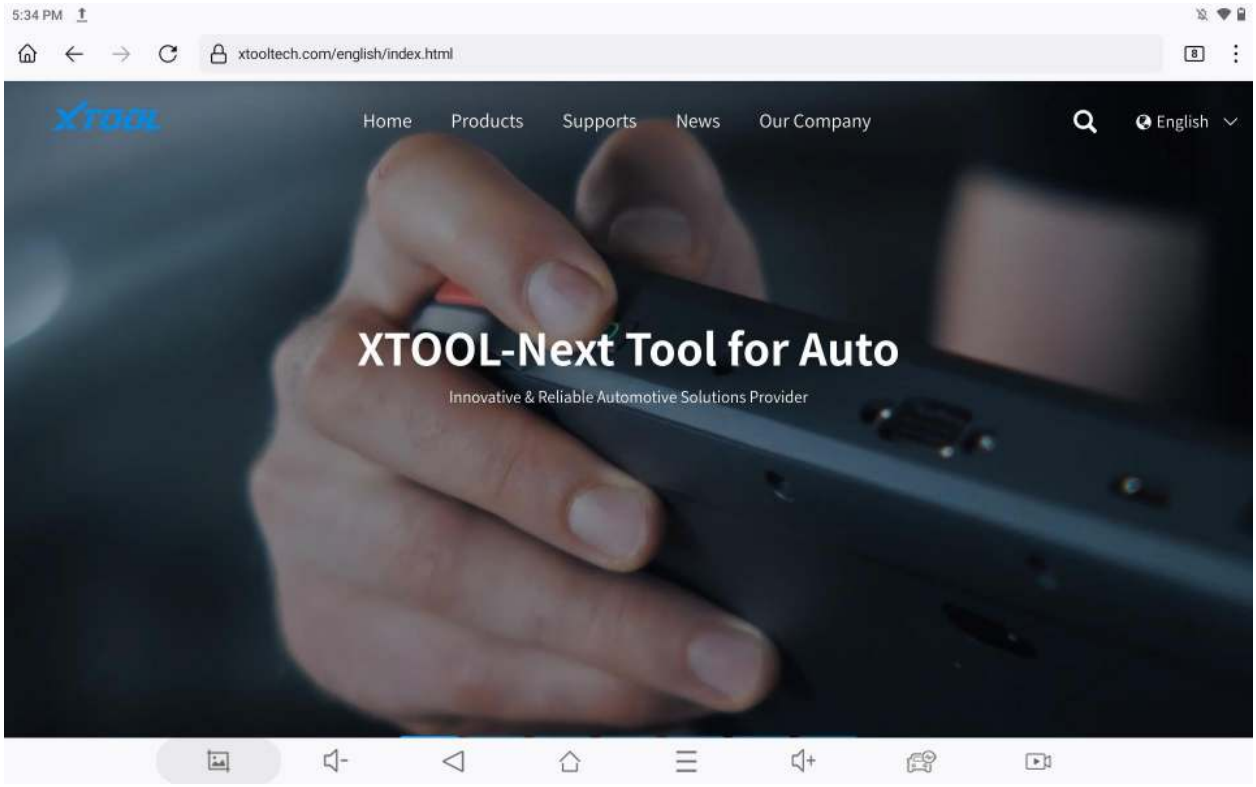
3.5.14 Video

This function allows you to record and view videos.



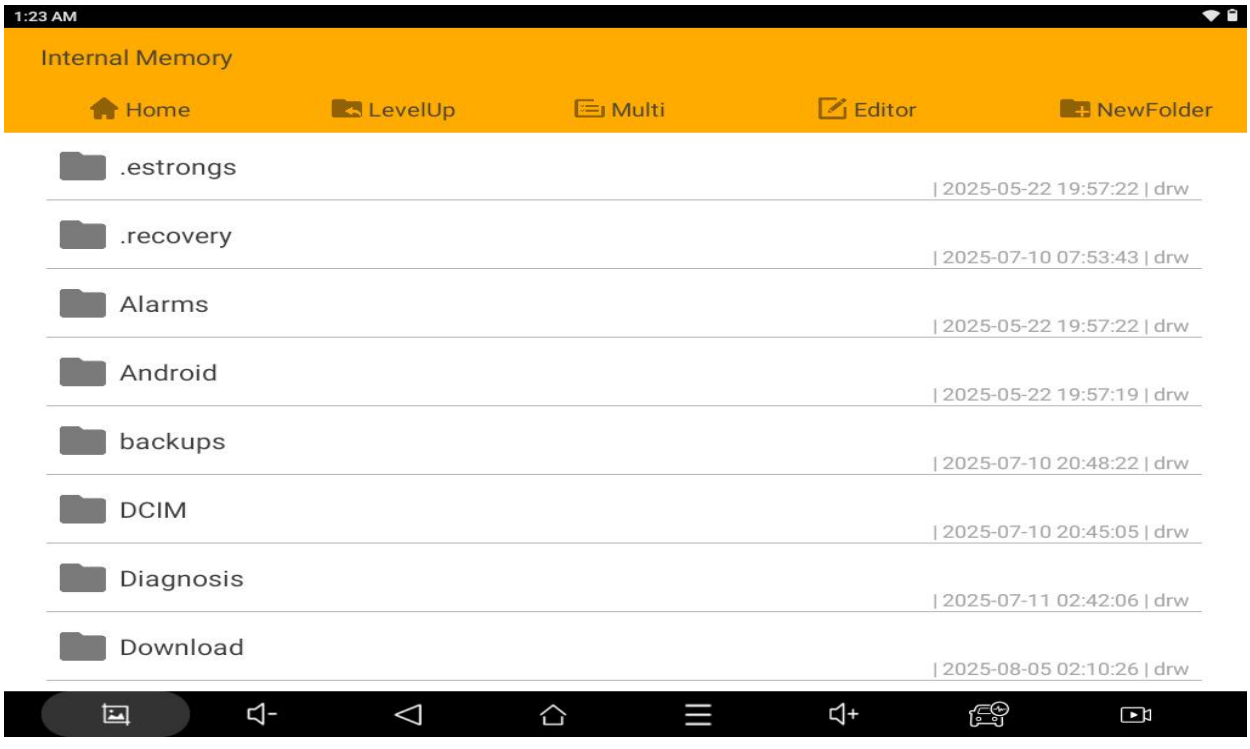
3.5.15 Chromium

This function allows you to get product support from XTOOL website and search information.



3.5.16 Explorer

This function allows you to manage documents, reports, files, and folders stored in the memory.

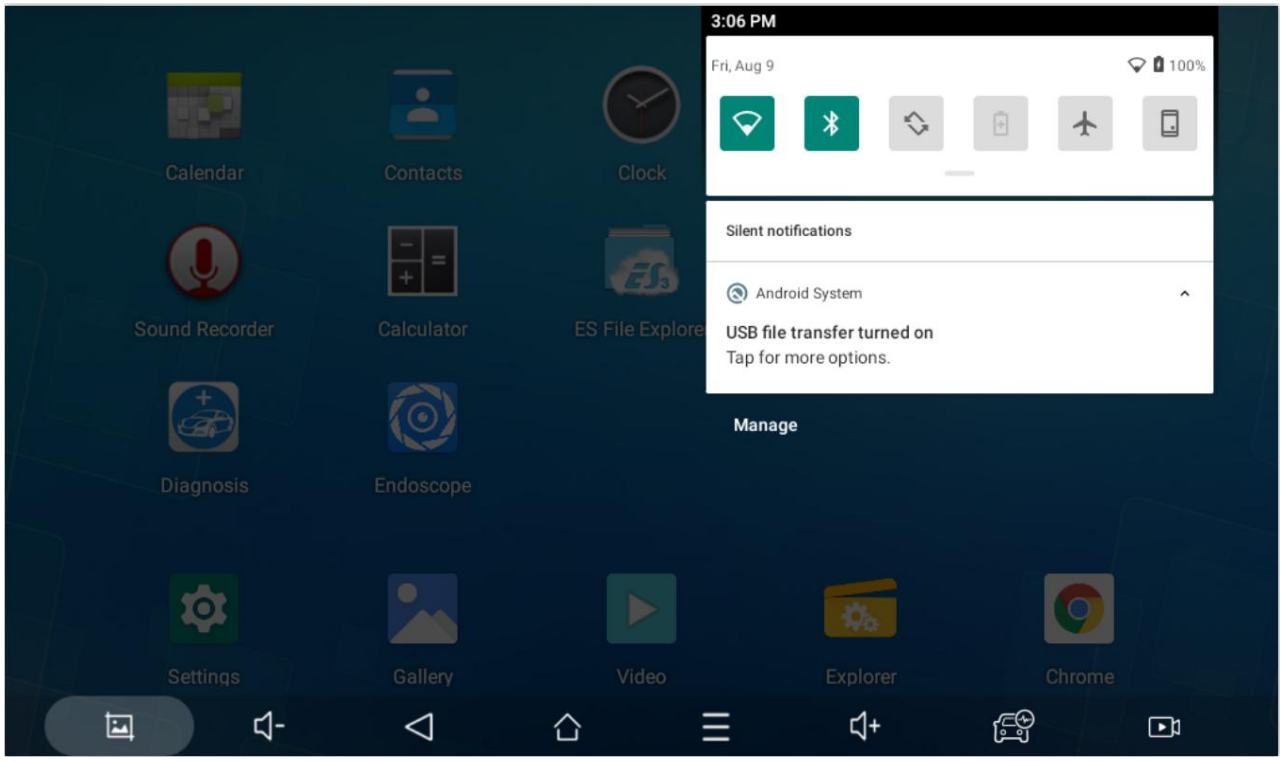


3.6 Connect to USB Type-C Port for Data Transfer

To enable data transfer between the Diagnostic Tool and a PC, please follow these steps:

Step 1: Connect the Diagnostic Tool to a PC by using a Type-C cable. Insert one end into the Type-C port on the Diagnostic Tool and the other end into a USB 2.0 port on the PC.

Step 2: Swipe down from either the upper right or upper left corner of the Diagnostic Tool to bring up the drop-down menu. Click on "Android System. USB file transfer turned on".



Step 3: Change the option from "No data transfer" to "File Transfer".

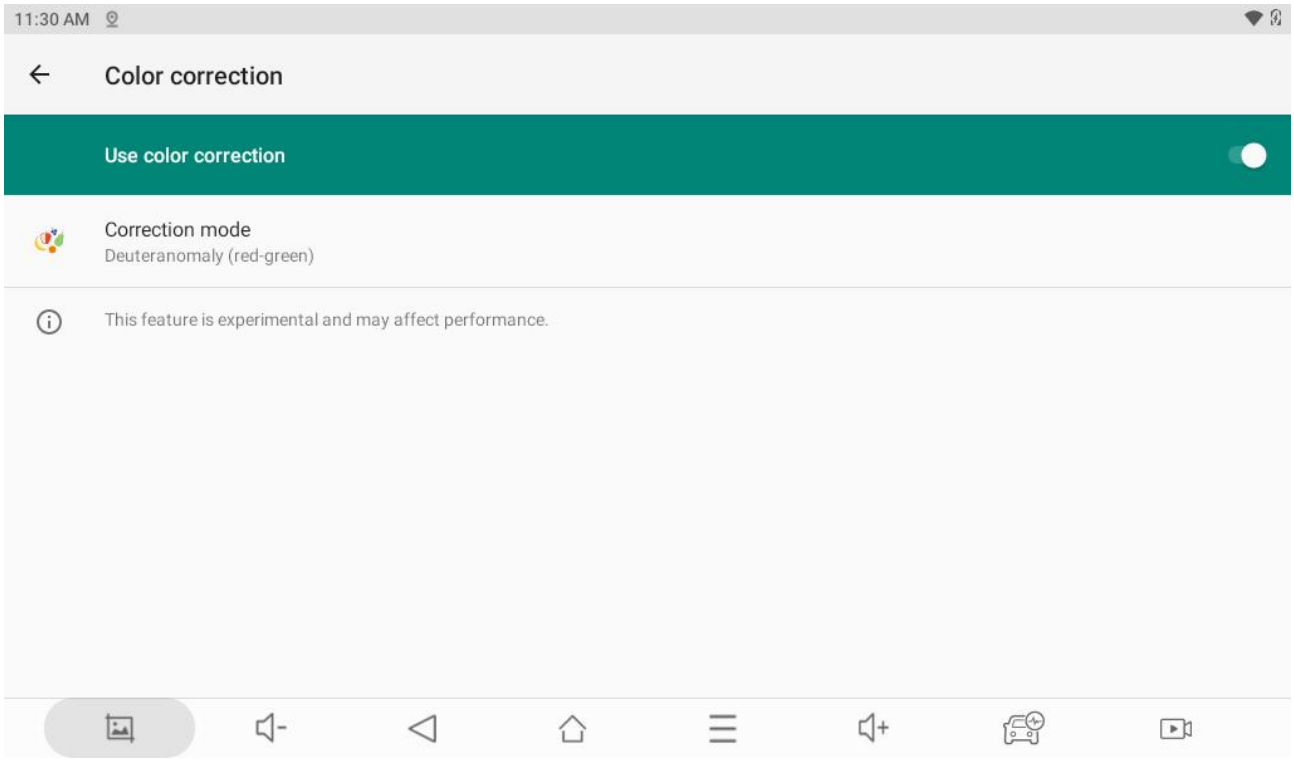


Step 4: On the PC, check the connected devices and click on "D8S" to access and manage the files stored in the internal memory of the Diagnostic Tool.

3.7 Red-Green Color Blindness Color Correction Mode

To set the Diagnostic Tool to red-green color blindness color correction mode, follow these steps:

Step 1: Swipe up from the bottom of the screen to bring up the hidden menu.
Step 2: Click the home button to switch to the main screen of the Android tablet.
Step 3: Navigate to Settings > Accessibility.
Step 4: Scroll down to find "Color correction" and toggle "Use color correction" to the on position.



3.8 Pre/Post Scan

Pre-scan:

Function: The pre-scan is usually performed before any repair or troubleshooting on the vehicle. Its main purpose is to scan the vehicle's various Electronic Control Units

(ECUs) and identify any existing Diagnostic Trouble Codes (DTCs). Through pre-scanning, technicians can get a comprehensive understanding of the vehicle's current condition and identify potential problem areas. Pre-scanning helps determine which systems or components need special attention, providing foundational information for repairs.

Importance: It helps technicians identify potential issues in advance, preventing important faults from being overlooked. Additionally, it records all the fault codes from the vehicle before repairs, which can assist in later comparisons to check the effectiveness of the repairs.

Post-scan:

Function: The post-scan is performed after the repair or troubleshooting is completed. Its main purpose is to verify the success of the repair, ensure that fault codes have been cleared, and check for any new issues. Through post-scanning, technicians can confirm the effectiveness of the repair work and ensure that all vehicle systems are functioning properly.

Importance: The post-scan ensures that no faults remain after the repair and that all work has been done correctly. It also provides data support for repair records, which can help track historical faults and repairs if needed later.

3.9 ECU Coding

The XTOOL D8W scanner offers advanced ECU Coding capabilities for VW, Audi, and Skoda vehicles. This function allows you to customize and reprogram ECU settings, enhancing vehicle performance and adapting to various requirements. With ECU Coding, you can make precise adjustments to the electronic control units, ensuring optimal functionality and integration with your vehicle's systems.

3.10 Code

Code refers to the process of real-time programming or coding performed on an actual vehicle or device through a connected diagnostic tool or equipment. In the automotive industry, Code typically involves connecting to the vehicle's electronic control unit (ECU) to perform coding operations, such as enabling or disabling

certain features, configuring parameters, or updating software. Code can directly adjust the vehicle system.

3.11 FCA Autoauth

Fiat Chrysler Automobiles (FCA) - The FCA Gateway is an important component in automotive electronic control systems, mainly used for transmitting data and information between different electronic modules in a vehicle. It serves as a communication node, allowing different in-vehicle systems and control units to exchange information and data.

Main Functions:

Data Communication: The FCA Gateway acts as a "bridge" in the vehicle's electronic system, facilitating communication between different control units (such as the engine control unit, body control module, entertainment system, etc.). Through this gateway, different modules can exchange information, such as vehicle diagnostic data, status information, etc.

Signal Transmission Control and Management: It controls and manages signal transmission to ensure smooth and secure data flow between various modules.

Security: The FCA Gateway also provides a level of security to prevent malicious signals or invalid data from entering the in-vehicle network. It helps identify abnormal or unauthorized devices, enhancing the vehicle's overall security.

Fault Diagnosis: The FCA Gateway can also serve as part of diagnostic tools, assisting automotive repair and diagnostic personnel in retrieving vehicle fault information through standard diagnostic interfaces (such as OBD-II). It transmits fault codes and related data to the diagnostic device.

3.12 Topology Diagram

Topology Diagram is a powerful feature that visually represents the communication network between various electronic control units (ECUs) in a vehicle. This graphical t ool helps technicians and engineers understand how different ECUs interact through various data buses. It’s especially helpful in modern vehicles with complex systems, as it allows users to see the interconnected structure of ECUs and their communicati on channels in real-time.

Key Benefits of Topology Diagram:

Network Visualization: It provides an overview of how ECUs are linked,showing the interrelationships between components and the network

Network Visualization: It provides an overview of how ECUs are linked, showing the interrelationships between components and the network's structure.

Efficient Diagnostics: Technicians can easily identify which components are communicating and whether there are any errors or faults in communication, helping to pinpoint issues quickly.

Communication Analysis: By visually representing communication paths, it highlights which modules may not be responding or are malfunctioning, allowing for quicker troubleshooting and resolution.

Improved Problem-Solving: With topology mapping, technicians can understand the root causes of issues more clearly and tackle them with greater efficiency, whether it's due to faulty connections or a module failure.

3.13 VAG Guide Function

VAG Guide refers to the official manuals or tools provided by the Volkswagen Auto Group (VAG), commonly used for vehicle diagnostics, repairs, and programming. It includes technical information and repair manuals for brands under VAG, such as Volkswagen, Audi, and Škoda, assisting professional technicians with vehicle maintenance and service. The VAG Guide also covers onboard electronic system diagnostics and coding, enabling technicians to quickly and accurately address vehicle issues.

3.14 PMI (Programmable Module Installation)

It is an essential advanced functions for Ford, Lincoln, and Mazda owners streamline the programming process by quickly transferring data from the old module to the new one, efficiently completing ECU replacements.

4. How to Diagnose Vehicles

This chapter covers the fundamental operation of the Diagnostic Tool function.

- The Diagnosis icon is situated on the Home screen.
- The Diagnostic Tool function enables communication with a vehicle's electronic control systems. This capability allows you to retrieve diagnostic trouble codes (DTCs), view PID data, conduct actuation tests, and perform advanced functions such as resets, relearns, matchings, adaptations, initializations, and more.

4.1 My Vehicles

"My vehicles" function allows you to add the diagnostic programs you use often to save time navigating the vehicles. Click "Diagnostic" icon on the diagnostic screen, you will see "My vehicles" listed in the top taskbar.

To add diagnostic program that you use often into this section, click the add icon> select the region where the vehicle brand is originated> select the brands you often use> click "completed" to finish adding brands operations.

To remove a diagnostic program for "My vehicles" list, click the pen icon select the diagnostic program you want to remove> click "Remove" to finish removing it from the list.

4.1.1 Compatibility Check

This Diagnostic Tool is compatible with all OBD-II vehicles for performing generic OBD-II tests, as well as a wide range of vehicle makes and models across regions like the United States, Europe, Asia, Australia, etc., for comprehensive electronic control systems diagnostics. However, the specific functions available for each vehicle may vary, even among vehicles of the same make, model, and year.

IMPORTANT:

Special Functions on the main diagnostic screen are not universally available for all vehicles. The availability of functions for a specific vehicle depends on compatibility, which requires verification using the vehicle's VIN (Vehicle Identification Number), make, model, and year.

To check compatibility, please consult tech support via support@xtoolonline.com at any time or refer to our website: https://www.xtoolonline.com /support/vehicle-coverage (for reference only, subject to confirmation from tech support: support@xtoolonline.com).

4.2 Software Program Version

This Diagnostic Tool displays the current software program version at the bottom of each vehicle manufacturer's screen. For instance, the current installed KIA software program is V14.10, as depicted in the picture below.



The red up arrow indicates that there is a newer version of the software program available for download. When you click on the arrow to update the software program and successfully install it, the Diagnostic Tool will display that a newer version of the software program has been installed.

If there is no red arrow indicator, it means that your software packages are all updated to the latest version.

4.3 Demo Program

The "DEMO" program simulates the vehicle navigation process, displays available function options, and demonstrates the appearance of the menu. You can use this DEMO program to practice using the Diagnostic Tool functions before activating the

tool. It serves as a training tool to familiarize yourself with the operations and capabilities of the Diagnostic Tool.

IMPORTANT:

The DEMO program may not display the most current vehicle diagnostic procedures or the actual screen interface. It is not intended for checking vehicle coverage or compatibility.

4.4 Trial Mode

The trial mode may not accurately represent the latest vehicle diagnostic processes or the actual screen interface. It is crucial to understand that this program is not designed for vehicle coverage or compatibility checks. Its main purpose is to offer practice and help users become familiar with the functions and user interface of the Diagnostic Tool.

4.5 Wi-Fi Connection

This Diagnostic Tool can connect to 2.4 GHz or 5.0 GHz frequency hotspot or Wi-Fi. Swipe up the hidden bottom toolbar and see the tab menu. Click Home> Network & Internet> Switch on Wi-Fi connection> Click Wi-Fi icon to view Wi-Fi available> Select the Wi-Fi you want to connect and input password to connect.

If your Wi-Fi connection is not functioning well, or if you are in an area without access to home Wi-Fi, you can connect to your mobile phone hotspot instead.

How to turn on the mobile hotspot

- **For iOS users**

Go to Settings> Turn on cellular network> Personal Hotspot> Switch on "Allow Others to Join" and "Maximize Compatibility" to set your phone and connect to the hotspot from your Diagnostic Tool following the steps above.

- **For Android users**

Go to Settings> Wireless & networks> Tethering & portable hotspot> Portable WLAN hotspot> Switch on hotspot> Configure WLAN hotspot> Encryption Type> WPA2 PSK Show advanced options and make sure "Max connections allowed" has user left for the Diagnostic Tool.

NOTE:

Wi-Fi connection is not necessary for diagnostics with most vehicle brands. However, for certain brands like Peugeot, which require access to an online server during diagnostics, it is essential to connect to Wi-Fi.

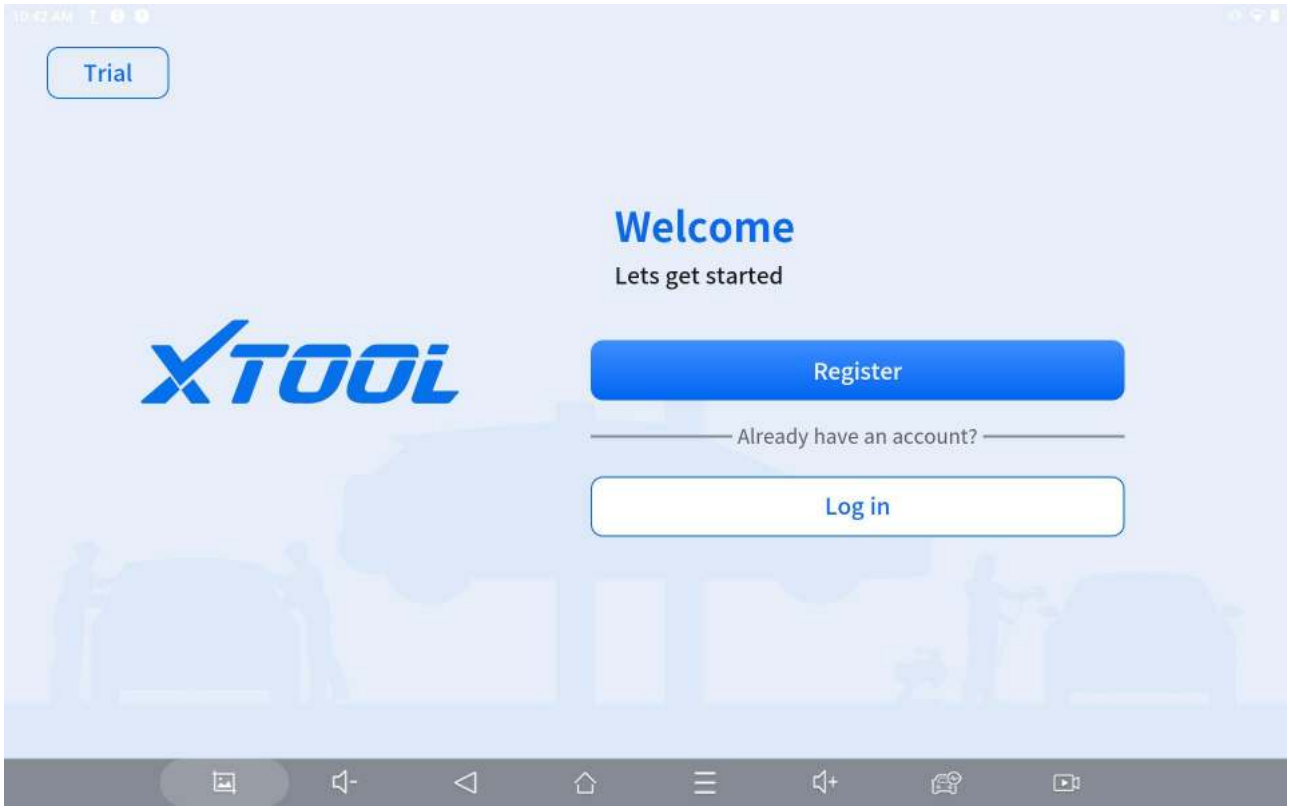
4.6 Product Activation

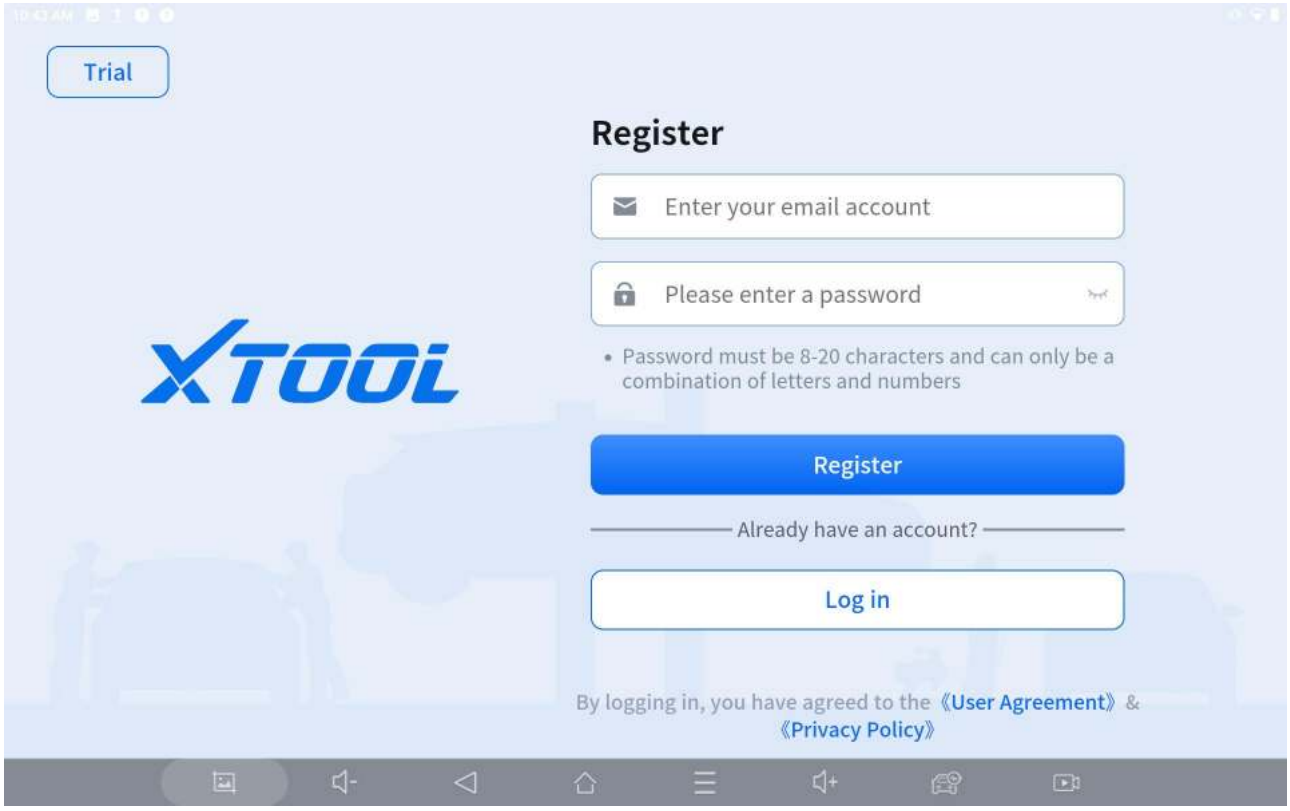
Step 1: Select a language for the operating system.

Step 2: Connect an available Wi-Fi network.

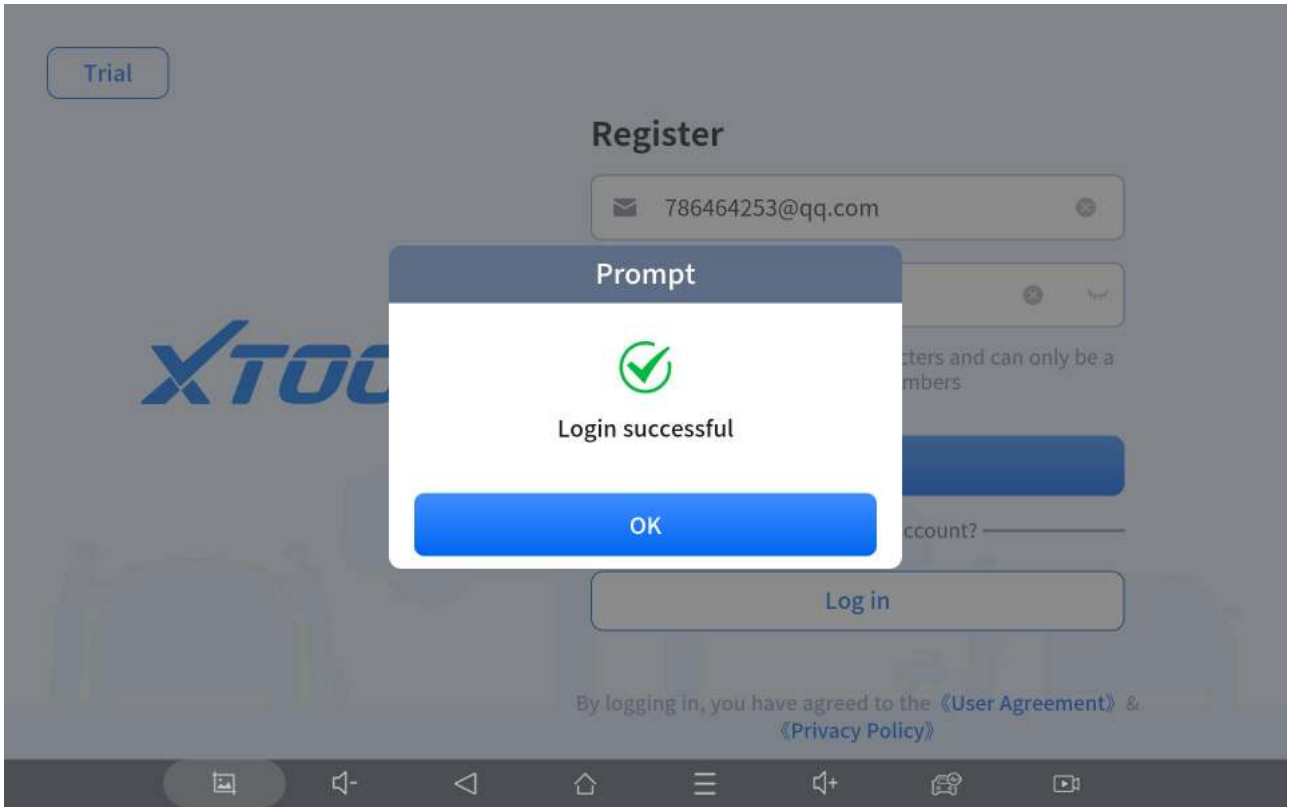
You can also click the "TRAIL" button in the upper left corner to try it out before activation. However, activation is highly recommended to take advance of any new online software updates.

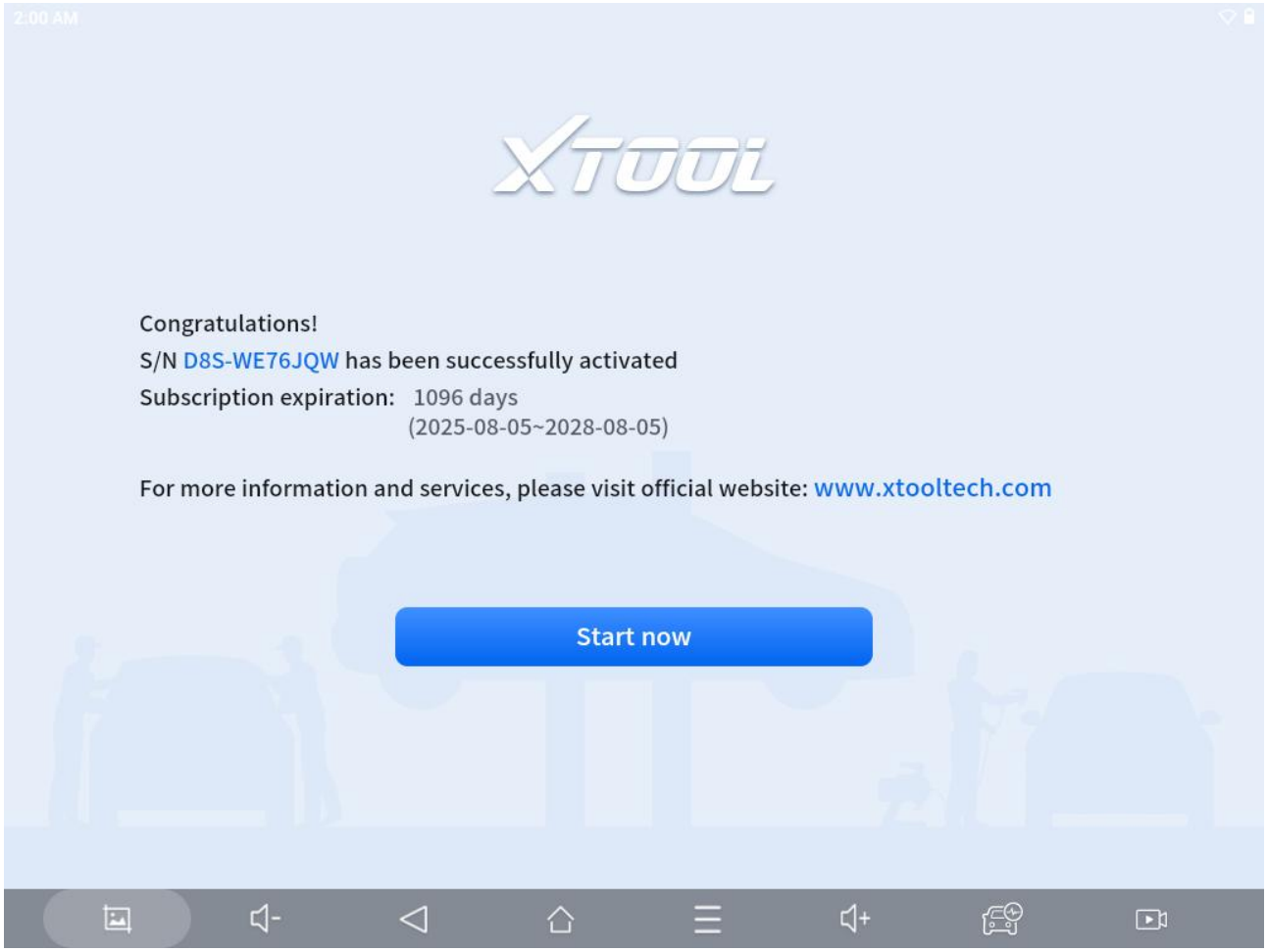
Step 3: Click Register to enter the activation page, as shown below:





Step 4: A pop-up window showing Login successful indicates that you have completed the first boot setup.





Step 5: Click "Start now" to enter the diagnostic system and start using the device.

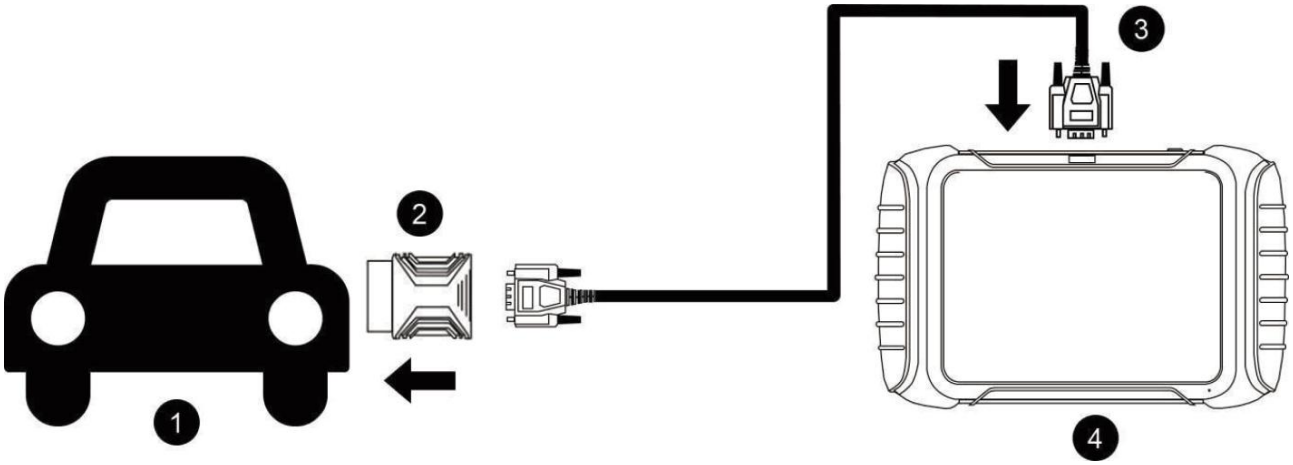


Step 6: Once you see "Login successful" on the screen, the Diagnostic Tool has been successfully registered and activated. You can now use the email address and password you set for logging in. The Diagnostic Tool will remember your account information, so you won't need to log in every time.

NOTE:

If you are unable to register the Diagnostic Tool or you can't see the activation screen, contact our support team via support@xtoolonline.com.

4.7 Vechicle Connection



1. Vehicle 2. OBD2-16 adapter 3. DB15 test cable 4. Tablet

4.8 Diagnose Vehicles

To ensure proper communication and diagnostics, the vehicle must be correctly identified. The vehicle identification sequence is menu-driven, and you should follow the screen prompts to enter the required information. Exact procedures may vary by the make, model, and year of the vehicle.

Steps to Identify a Vehicle: Follow these steps to establish communication between the Diagnostic Tool and the vehicle.

Step 1: Follow Screen Prompts: Use the menu-driven prompts to enter the necessary vehicle information.

Step 2: Options for Vehicle Identification:

- VIN (Vehicle Identification Number)
- Manufacture area> Model> Year
- Other specific criteria as required by the Diagnostic Tool

4.8.1 Vehicle Identification

Click "Auto Scan" icon on the diagnostic screen, and the Diagnostic Tool will scan the vehicle VIN and decode the VIN for vehicle identification automatically.

IMPORTANT:

There is a common misconception that the Diagnostic Tool cannot communicate with a vehicle for diagnostics if it fails to detect or decode the VIN number. If the Auto Scan option fails, it's recommended to try other vehicle identification options instead. Use "Manual Selection" as your final but reliable solution to input the vehicle's make, model, and year manually. This ensures you can proceed with diagnostics even if automatic VIN detection is unsuccessful.

NOTE:

Auto Scan functionality may not be compatible with all vehicles. If Auto Scan fails to work, it's advisable to try alternative options instead.

4.8.2 Diagnostic

Click "Diagnostic" icon on the diagnostic screen, the Diagnostic Tool will bring up vehicle selection menu. Click the "" icon at the top left corner, and you will see "Auto Scan" and "Manual Input" icons available. Click "Manual Input" to input the vehicle VIN number (17 digits) manually and the Diagnostic Tool will decode the VIN number and identify the vehicle.

NOTE:

In cases where vehicle VIN numbers cannot be decoded, if both Auto Scan and Manual Input fail, it is recommended to try using Automatic Detection or Manual Selection instead.

4.8.3 Automatic Detection

Click "Diagnostic"> Select region where the vehicle brand is originated, for example "Americas"> Select the vehicle brand, for example "CADILLAC"> Select "Automatic Detection" to automatically detect and identify the vehicle the Diagnostic Tool is connected to.

NOTE:

Automatic Detection may not function with all vehicle models. If none of the three options mentioned above are successful, it is advisable to choose Manual Selection instead.

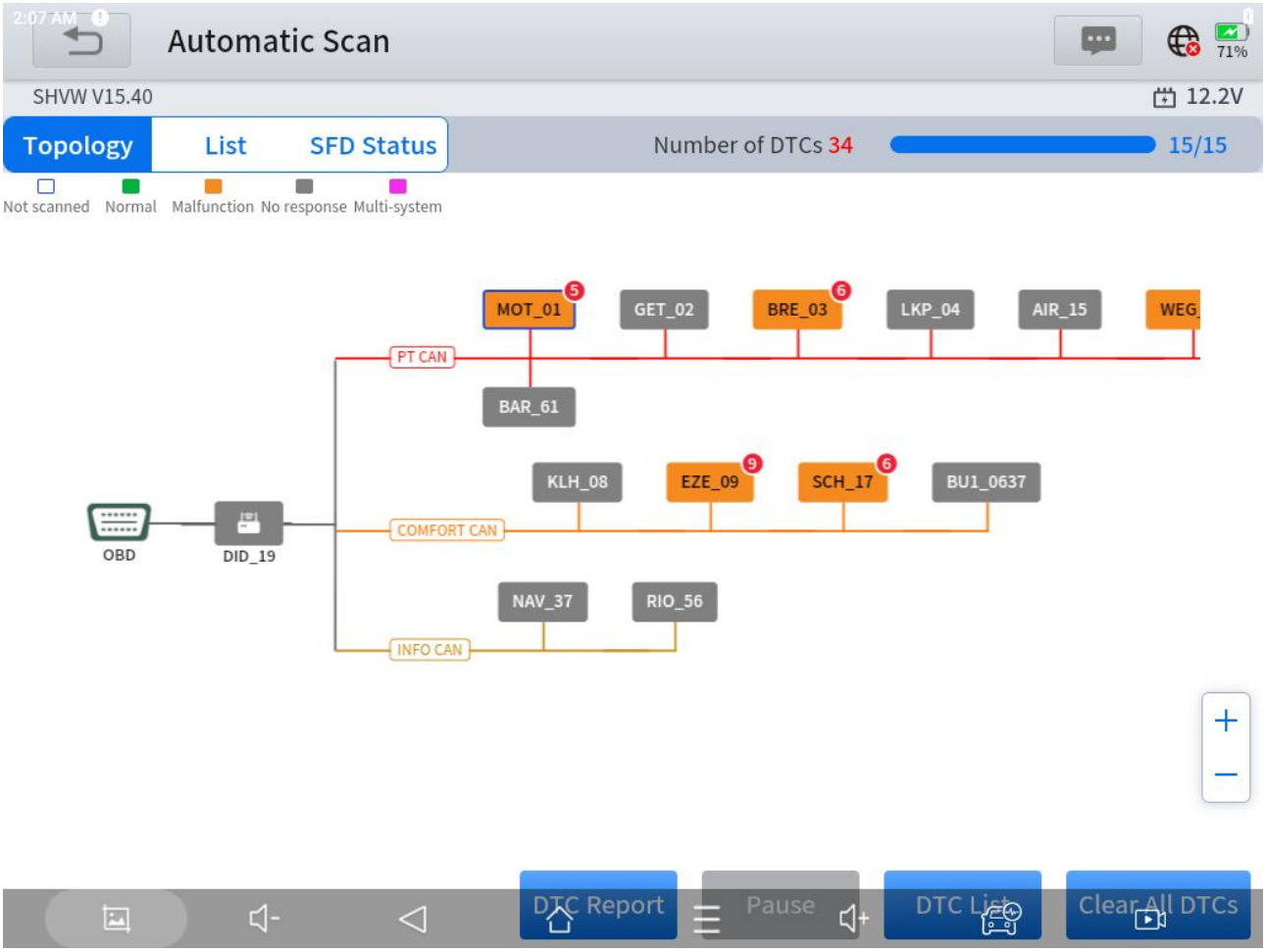
4.8.4 Manual Selection

When the "Auto Scan", "Manual Input" and "Automatic Detection" fails to identify the vehicle, you can always select "Manual Selection" to identify the vehicle and proceed to diagnostics. Manual Selection is the most reliable vehicle identification option.

To identify a vehicle through "Manual Selection", click "Diagnostic"> Select region where the vehicle brand is originated, for example "Americas"> Select the vehicle brand, for example "CADILLAC"> Select "Manual Selection"> Select the model year> Model Name and you may go through a few other selections before you see "Automatic Scan" and "System Selection" on the screen.

4.8.5 Automatic Scan

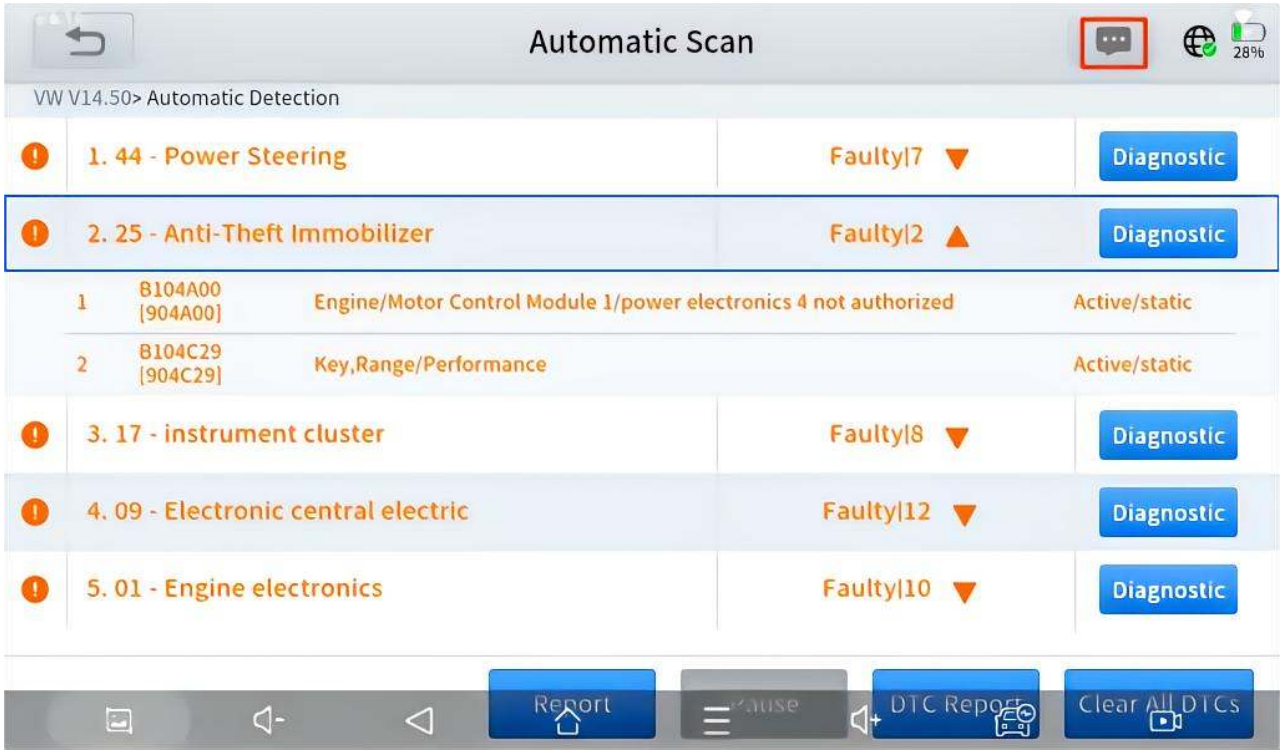
It is to scan all available vehicle modules for diagnostics.



After performing an automatic scan, the Diagnostic Tool will display the vehicle systems affected by faults and the number of failures in orange at the top of the screen.

4.9 Submit Feedback

Clicking the message icon "" in the top right corner allows you to submit feedback to our support team if you encounter any issues with the app or the software programs.



4.10 CAN Fast Scan

Scanning all available vehicle systems for vehicles that use the CAN protocol for vehicle communication post-2005 is much faster.

4.11 System Selection

Once you have identified where the car problems might be, you can select an individual vehicle module for diagnostics. This allows for more targeted and efficient troubleshooting.

4.12 Diagnostics

When the vehicle has been identified correctly, the Diagnostic Tool will be able to scan and access the vehicle electronic control systems to pull diagnostic trouble codes (DTCs), retrieve PID data (Parameter IDs), freeze frame, ECU information and perform diagnostic tests like actuation tests(bi-directional controls) and advanced resets, relearns, matchings, adaptations and initializations.

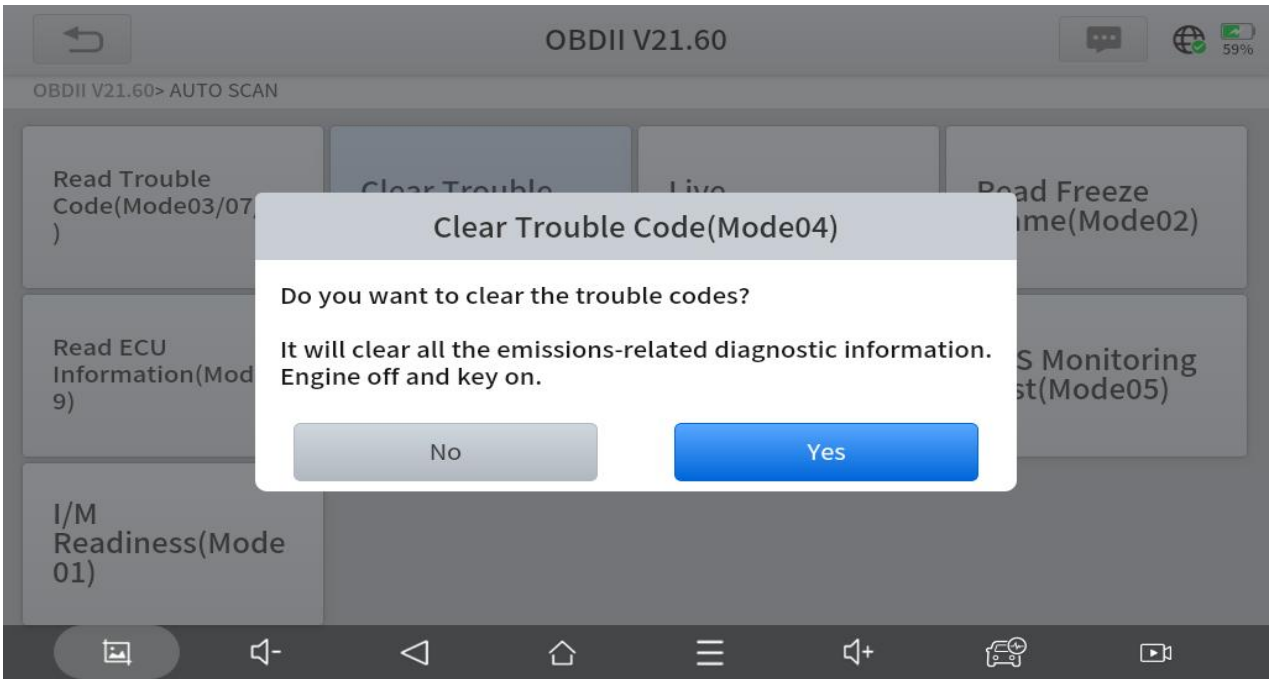
4.12.1 Read Codes

When viewing diagnostic trouble code (DTC) records retrieved from the vehicle's electronic control module, selecting them may open a sub-menu with viewing options.

During the diagnosis process, if the Diagnostic Tool displays "System is OK" or "No Trouble Code," it indicates either no related fault codes stored in the ECU or faults that are not monitored by that specific ECU. Many faults are related to mechanical system faults or issues with the circuit's operation. It's also possible that a sensor signal may be inaccurate but within acceptable limits, which can be further examined using Live Data (PID data).

4.12.2 Clear Codes

Erases DTC records, including both current and historical data, along with other stored information from the vehicle's electronic control module (ECM).



When the erase command is sent through the diagnostic program, the vehicle's electronic control module (ECM) will verify whether the issue has been resolved over several drive cycles. Some faults are immediately detected by the ECU when the key is in the run position, even without the engine running. However, other faults may require very specific test conditions to be met, such as engine coolant temperature

within a specific range, vehicle speed maintained within a range for a duration of time, throttle position within a certain range, and so on.

4.12.2.1 DTC Erased While Fault Remains

If fault codes are erased while the underlying issue remains unresolved, the fault code will reappear after a few drive cycles.

4.12.2.2 DTC Erased and Fault Fixed- History Code

If the fault has already been fixed but a trouble code is still stored, sometimes the ECU will detect the resolution and either clear the fault code or classify it as a historical code.

4.12.2.3 DTC Erased and Fault Fixed- History Cleared

If the fault is fixed and you clear the fault codes, the fault history will also be cleared. If you intend to have another technician investigate the car problem, it's not recommended to clear the fault code, as this may erase valuable information that could be helpful to others investigating the issue.

NOTE:

Clearing codes typically erases the freeze frame data associated with those codes.

4.12.3 PID Data

Displays PID data for various sensors from the vehicle electronic control module. This Diagnostic Tool allows viewing real-time PID data of various sensors in a list, view individual PID data in graphing, analog dashboard, setting maximum and minimum values, view custom PID data up to 8 sensors in a list, individual graphing and merged graphing.

4.12.3.1 PID Data List

Click live data function and the Diagnostic Tool will display a list of PID names and real-time values on the screen as show in picture below:



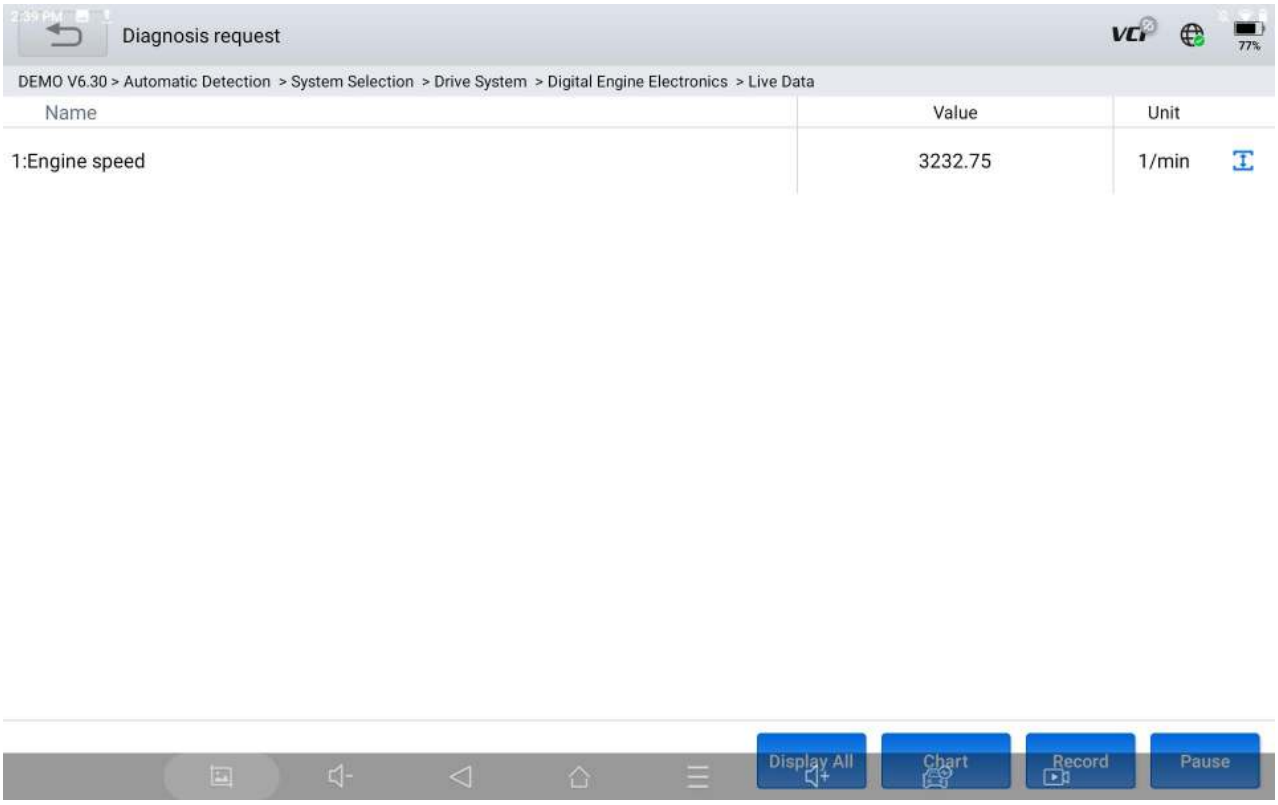
4.12.3.2 Individual PID Data Graphing

Click the "custom" icon on the lower right corner to view graphing for individual PID data and click chart to choose the format you want as shown in picture below:

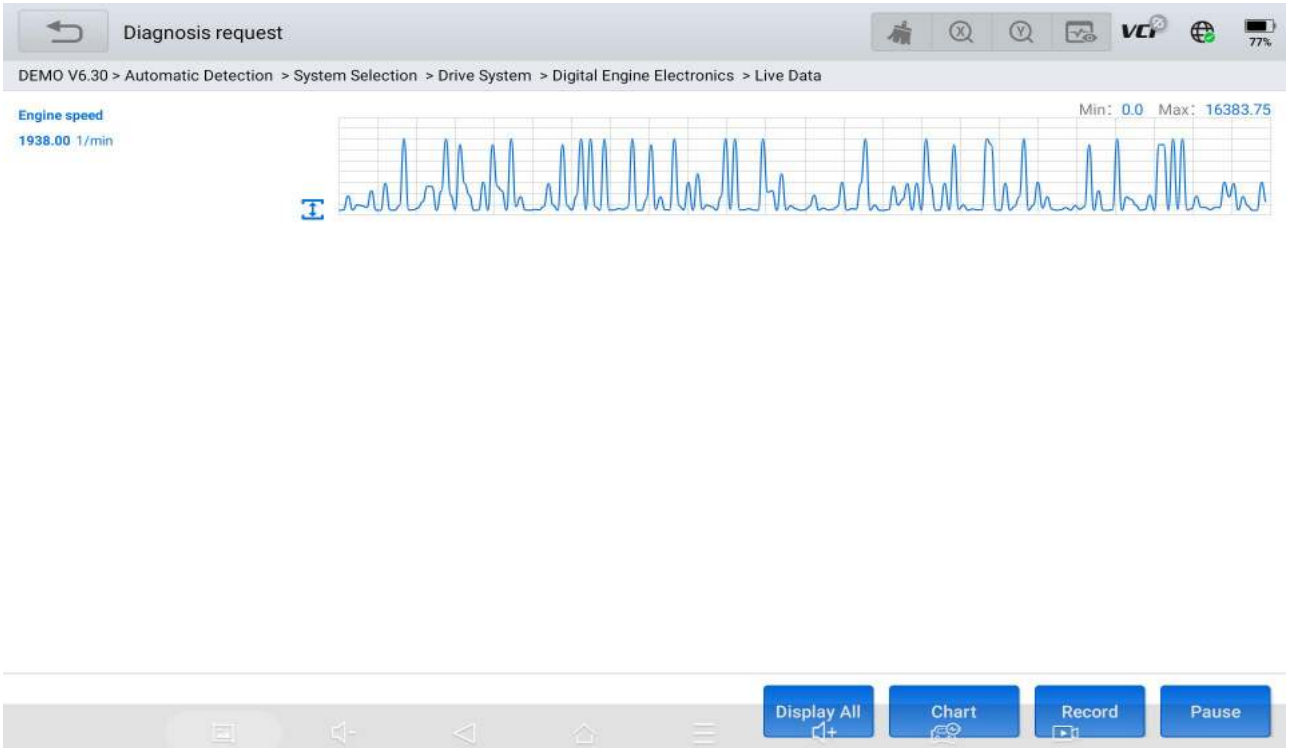


With the click of "chart" button you can choose from four viewing modes: List, Column, Graph, 2D-Graph.

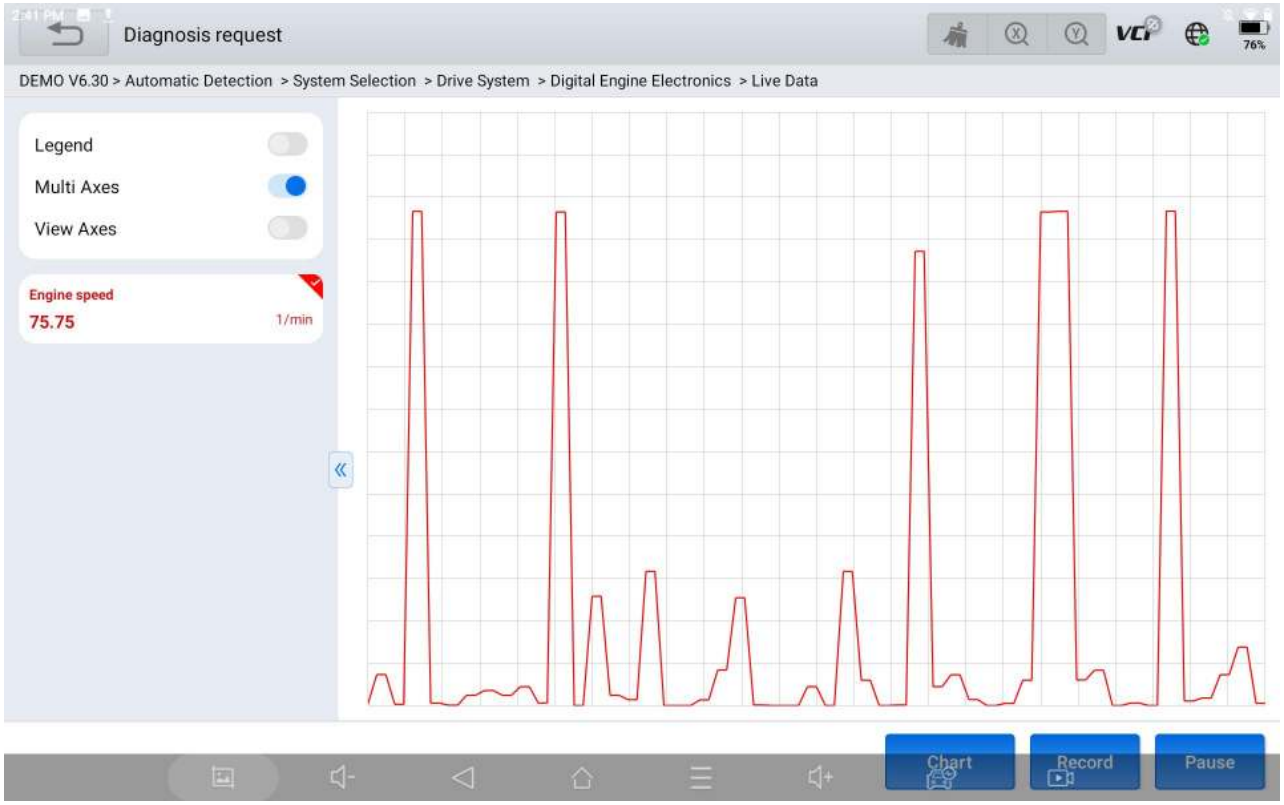
List Mode:



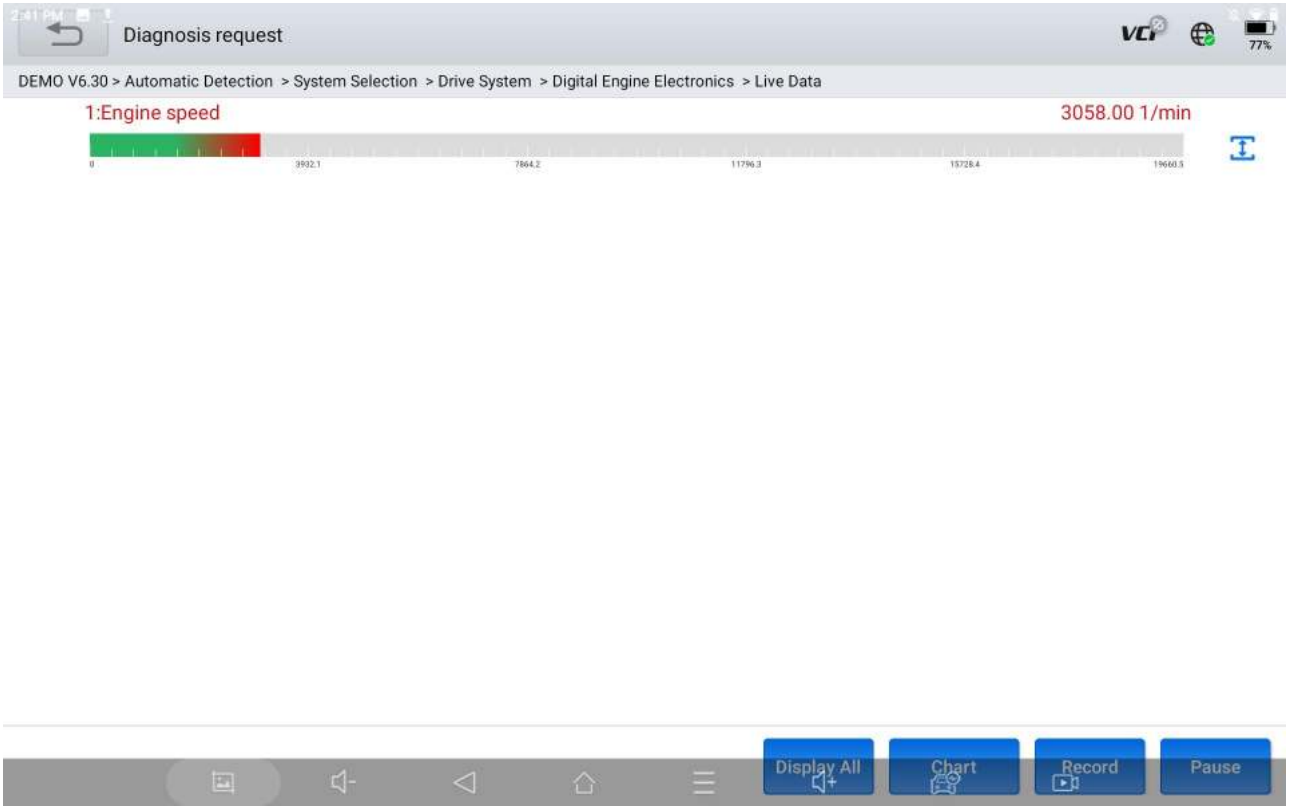
Graph Mode：



2D-Graph Mode：

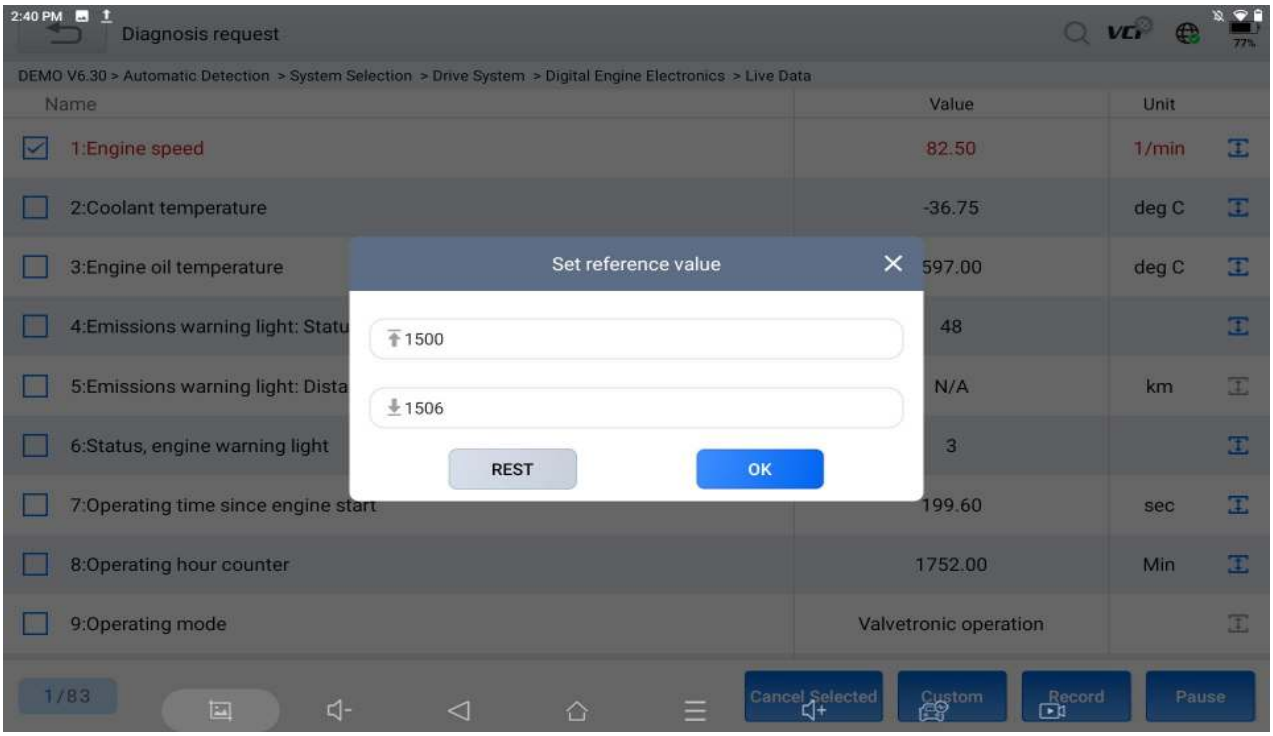


Column Mode:

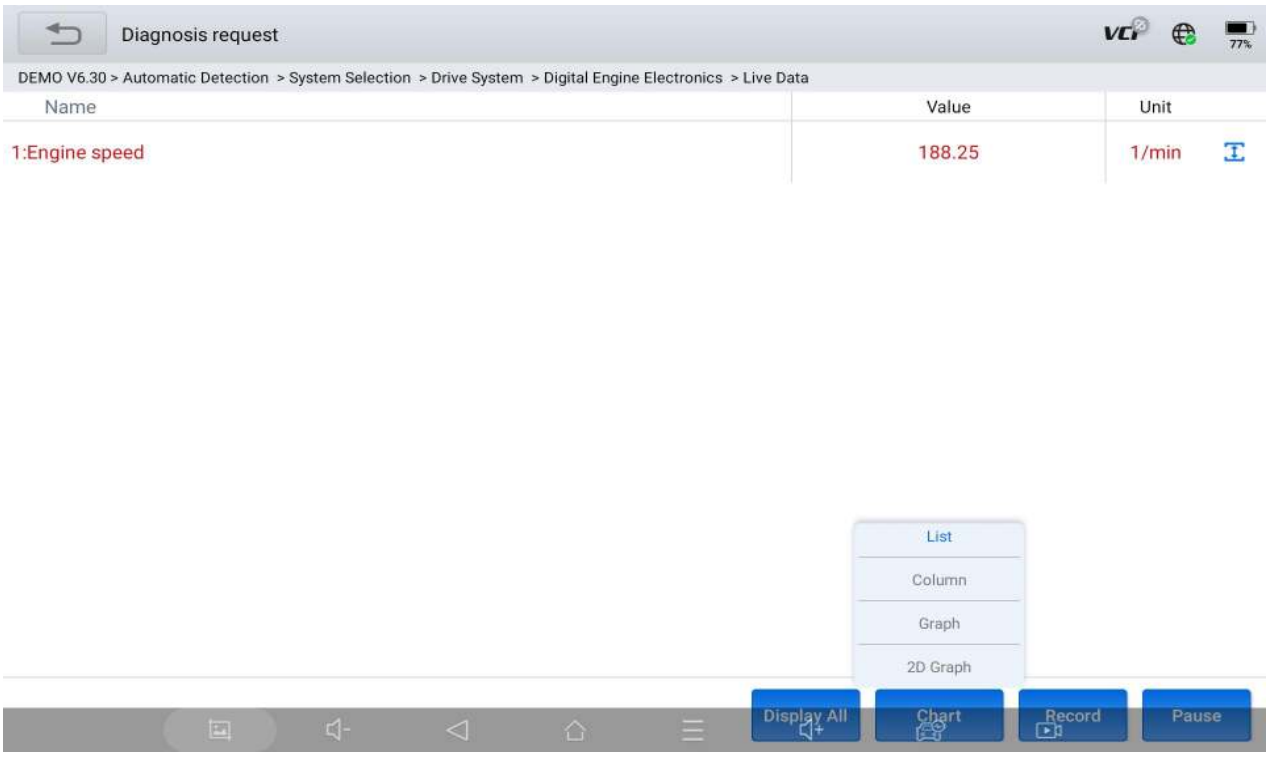


4.12.3.3 Set Maximum & Minimum Value Alarms

Click " " icon on the right to set maximum and minimum value alarms for individual PID data as shown in picture below:

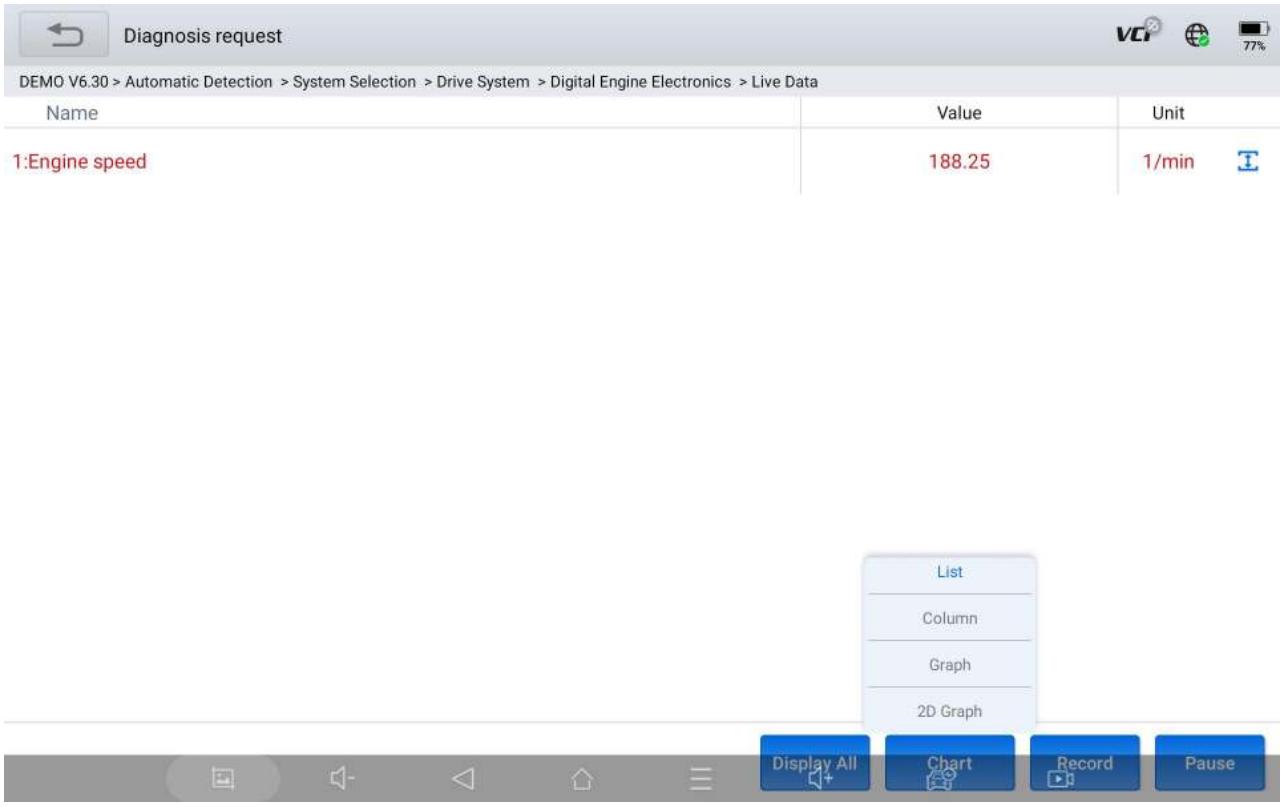


Once the maximum and minimum values are set on the screen, the diagnostic tool will display colors based on the values to indicate whether the PID data exceeds the maximum value or falls below the minimum value you have just set, as shown in the image below:

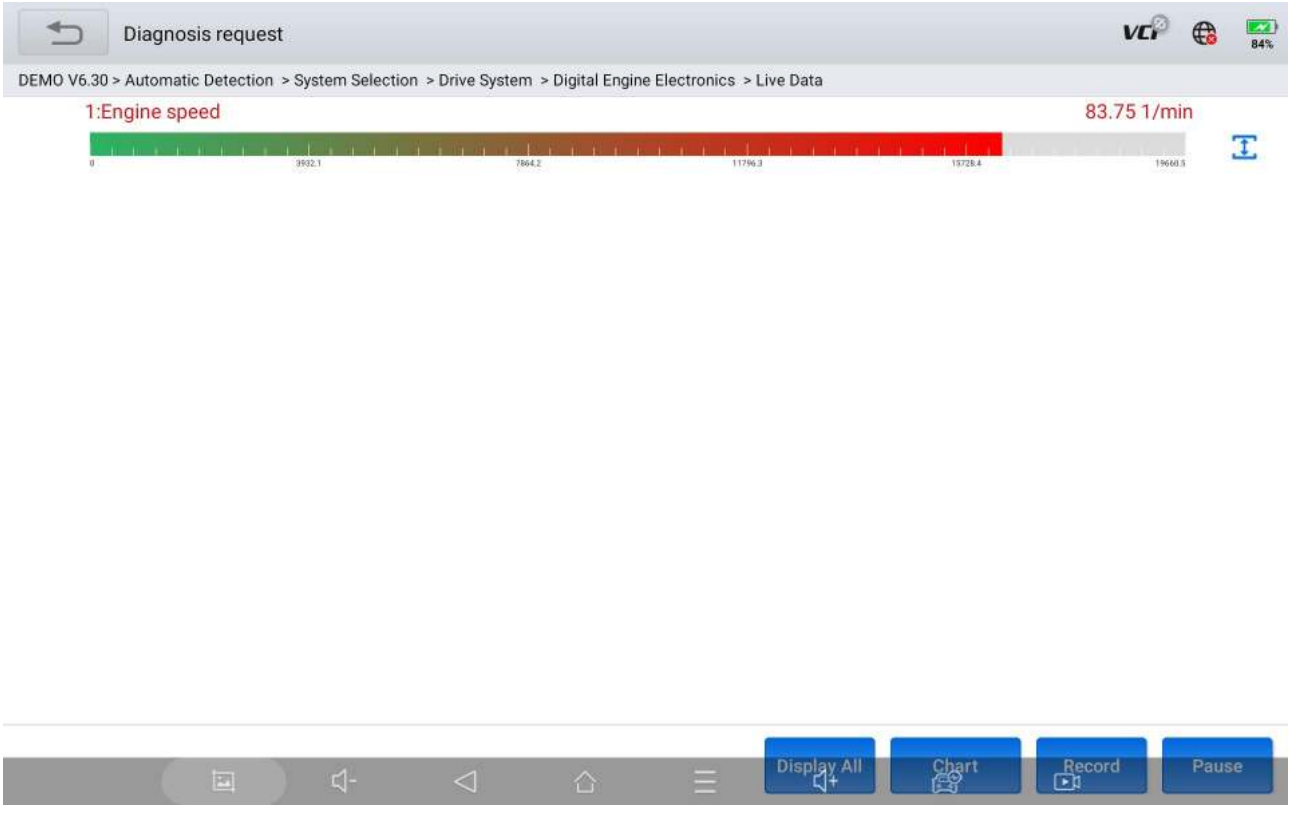


With the click of "chart" button you can choose from four viewing modes： List, Column, Graph, 2D-Graph.

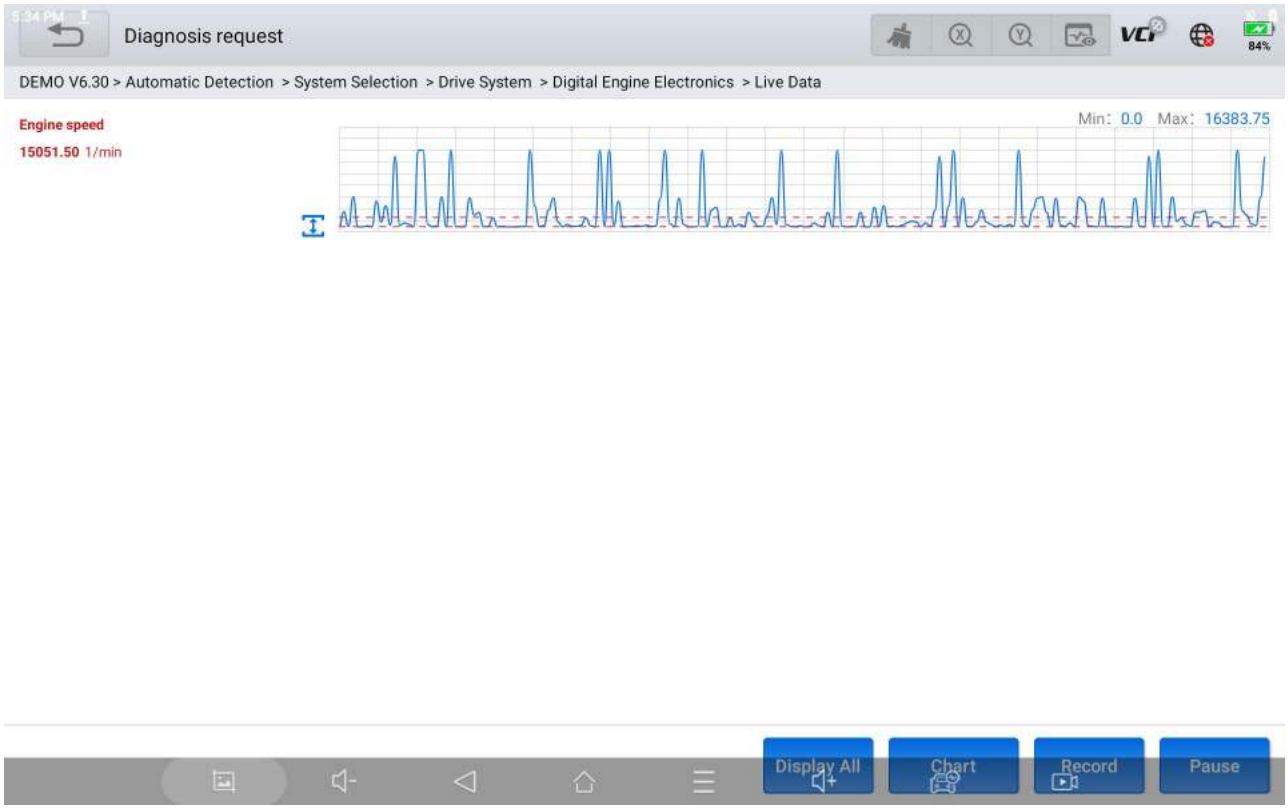
List Mode:



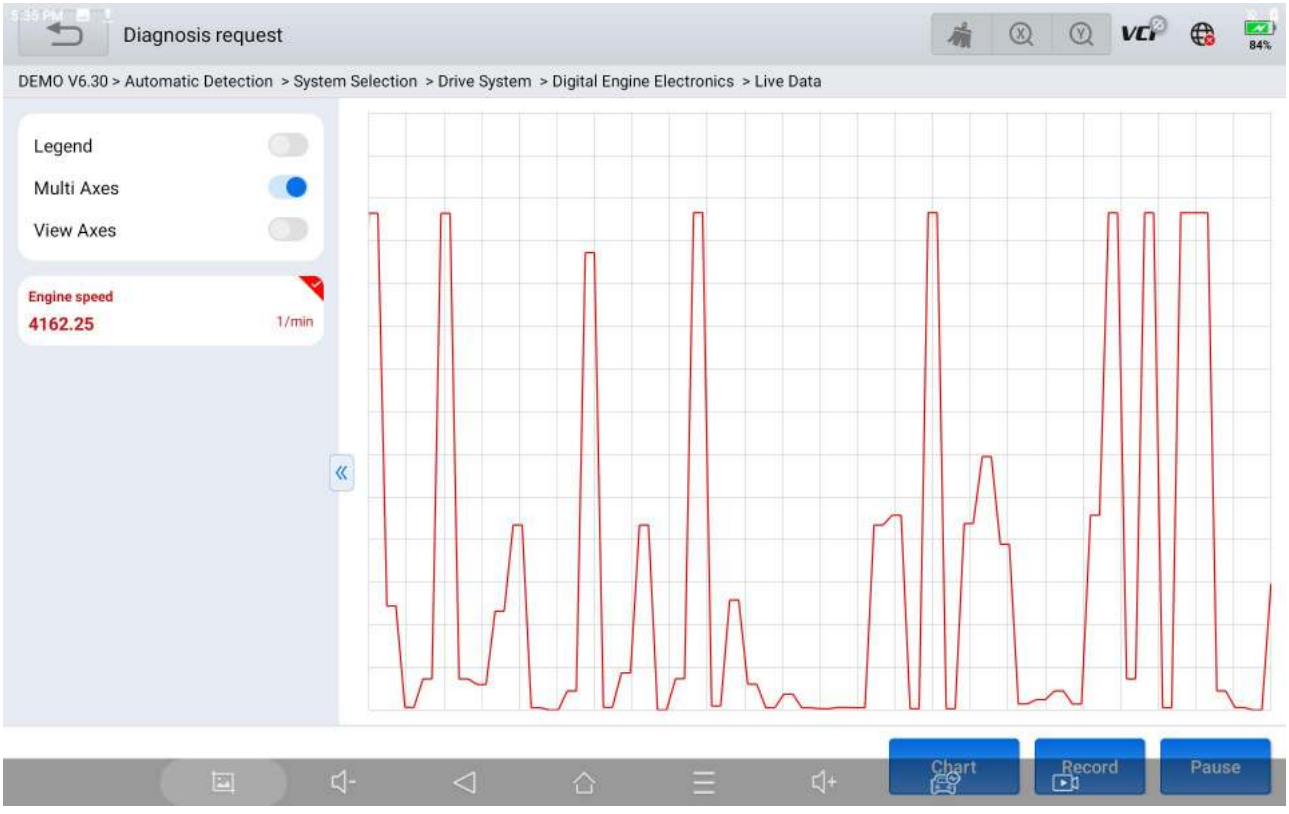
Column Mode:



Graph Mode:



2D-Graph Mode:

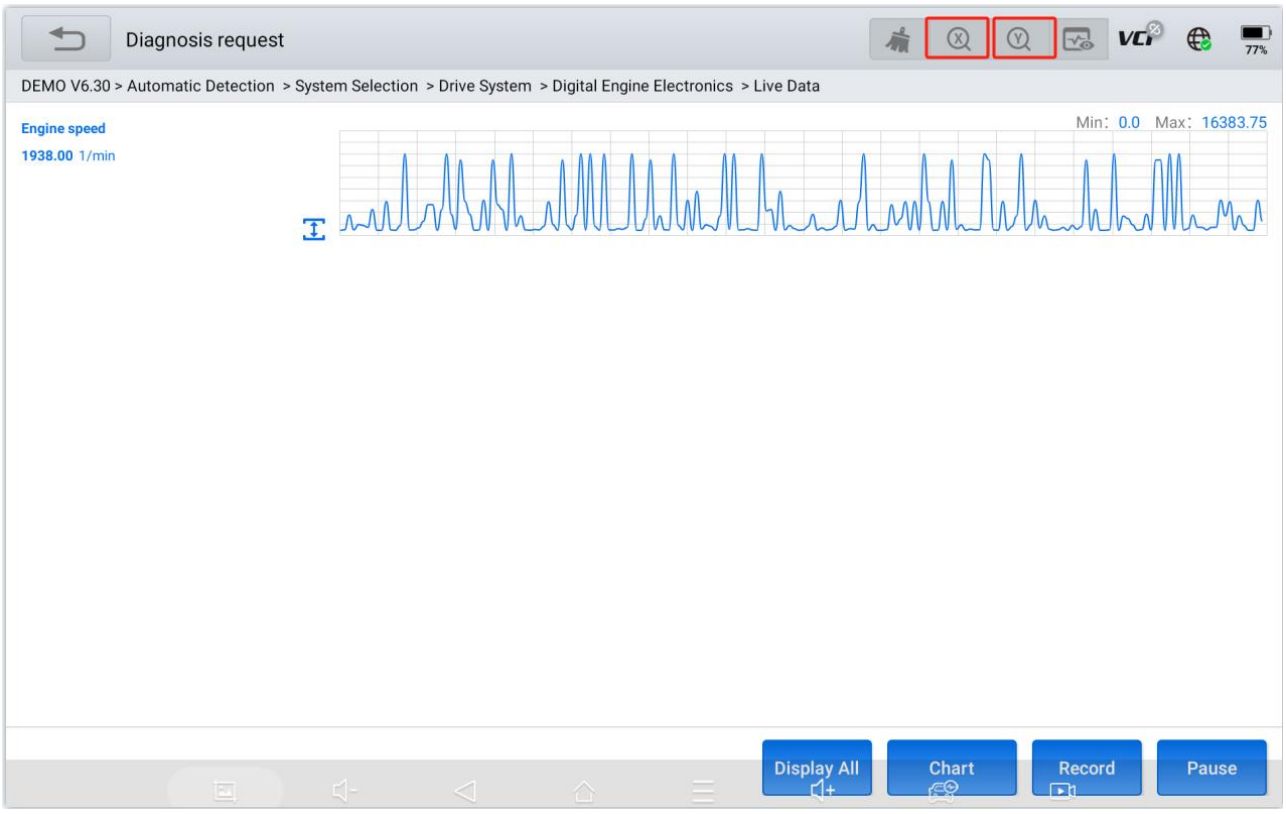


NOTE:

The maximum and minimum values do not have to be within the normal value range for the specific PID data. You may set whatever value you deem fit for you observation.

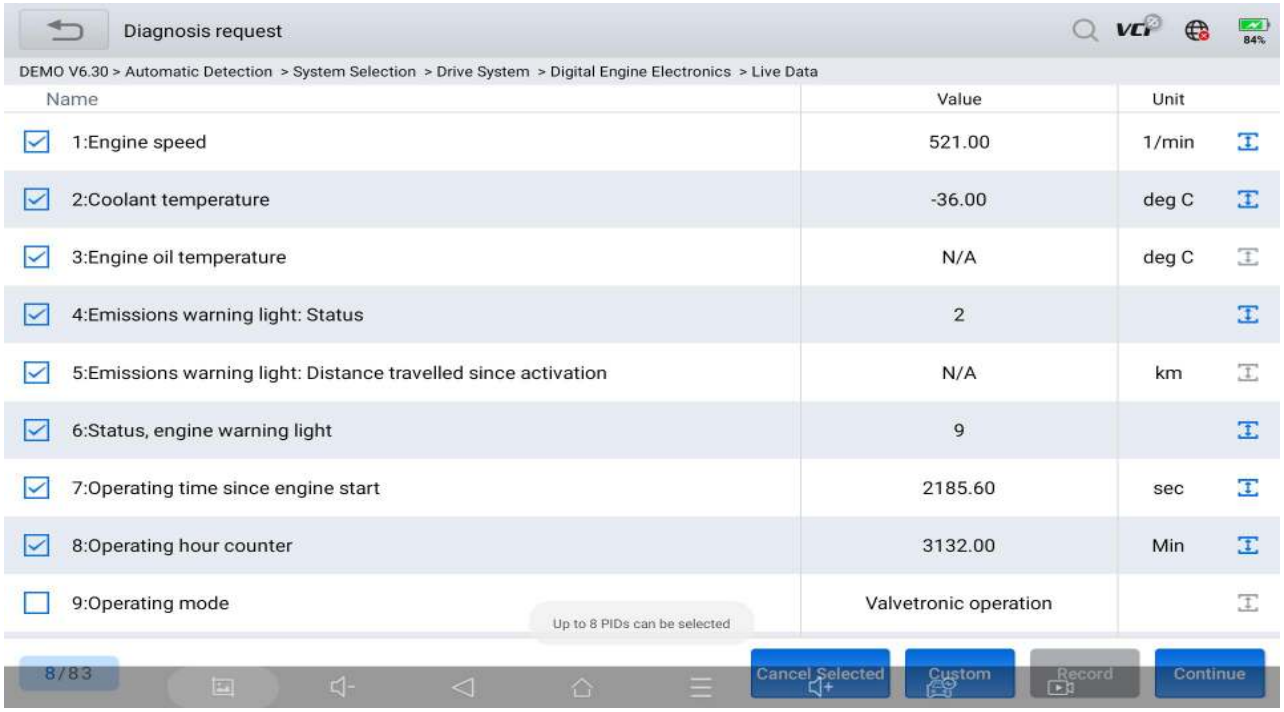
4.12.3.4 Zoom In & Zoom Out & View In Full Screen

Click the magnifier icon  to zoom in the x-axis up to 3 times and click the magnifier icon  to zoom in the y-axis up to 3 times. When it shows 3 times for x-axis or y-axis on the screen, press the magnifier icons again and it will show its original size (X1) again.



4.12.3.5 Custom Up to 8 PID Data

This Diagnostic Tool allows you to tick the boxes for up to 8(eight) PID data and click "Custom" to show custom list of real-time PID data.



Cancel Selected - To cancel the PID data you selected so that you can re-select them.

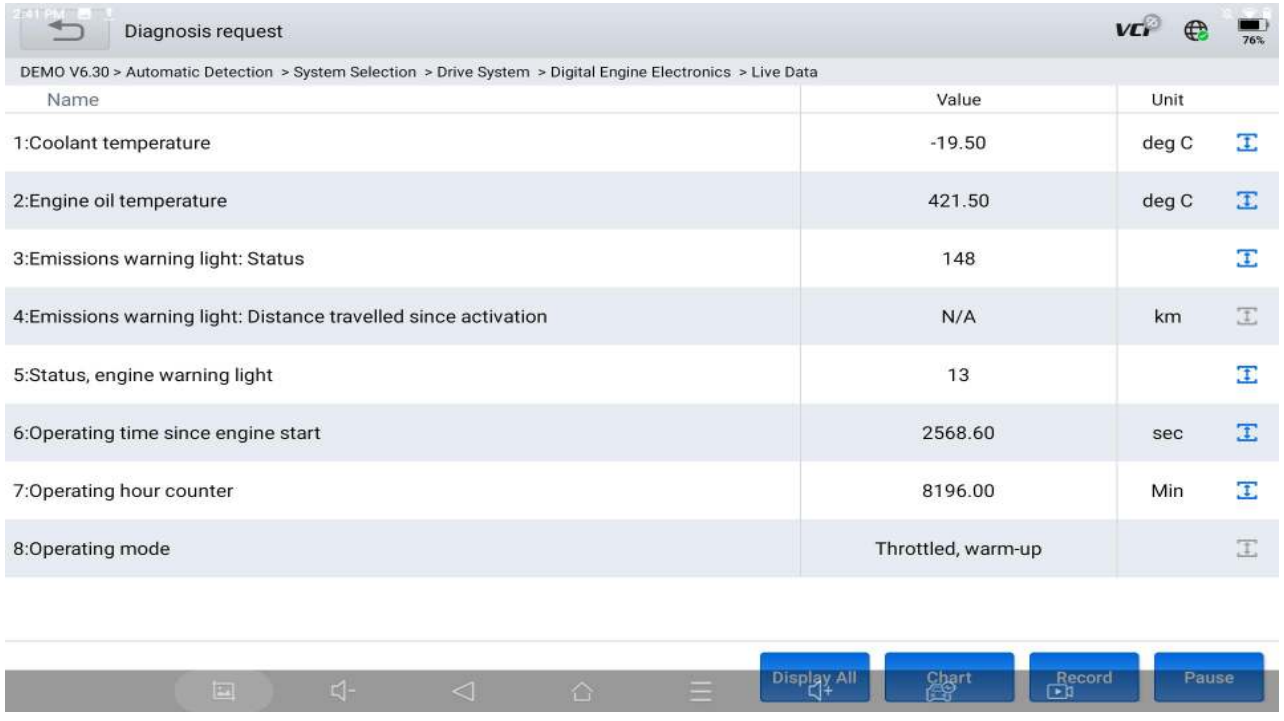
Custom - Proceed to display the custom screen for the PID data you selected.

Record - Recorded data streams

Pause - To pause the continuous retrieving process for the real-time PID data.

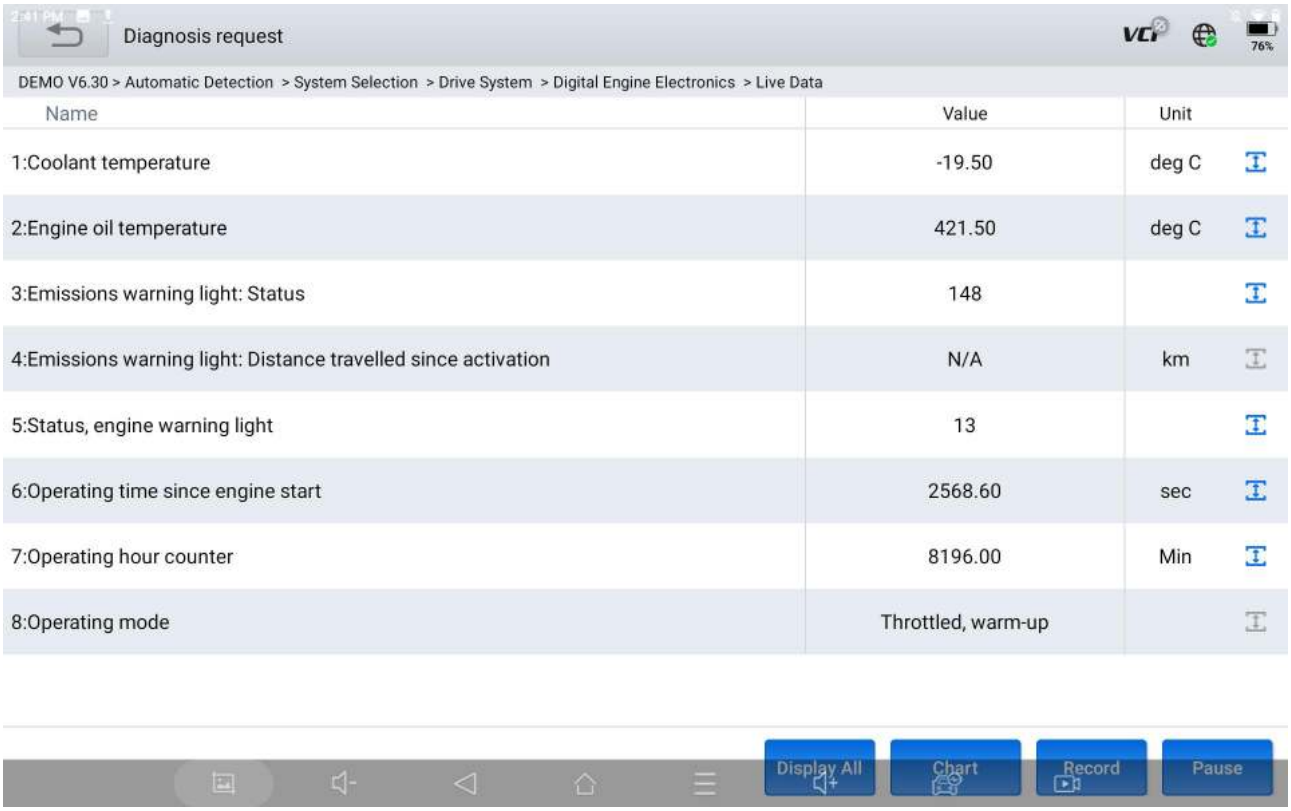
4.12.3.6 Individual Graphing for Up to 8 PID Data

Click the "custom" icon on the custom PID data list screen, and the Diagnostic Tool will show individual list for up to 8 PID data on one single screen, as shown in picture below:

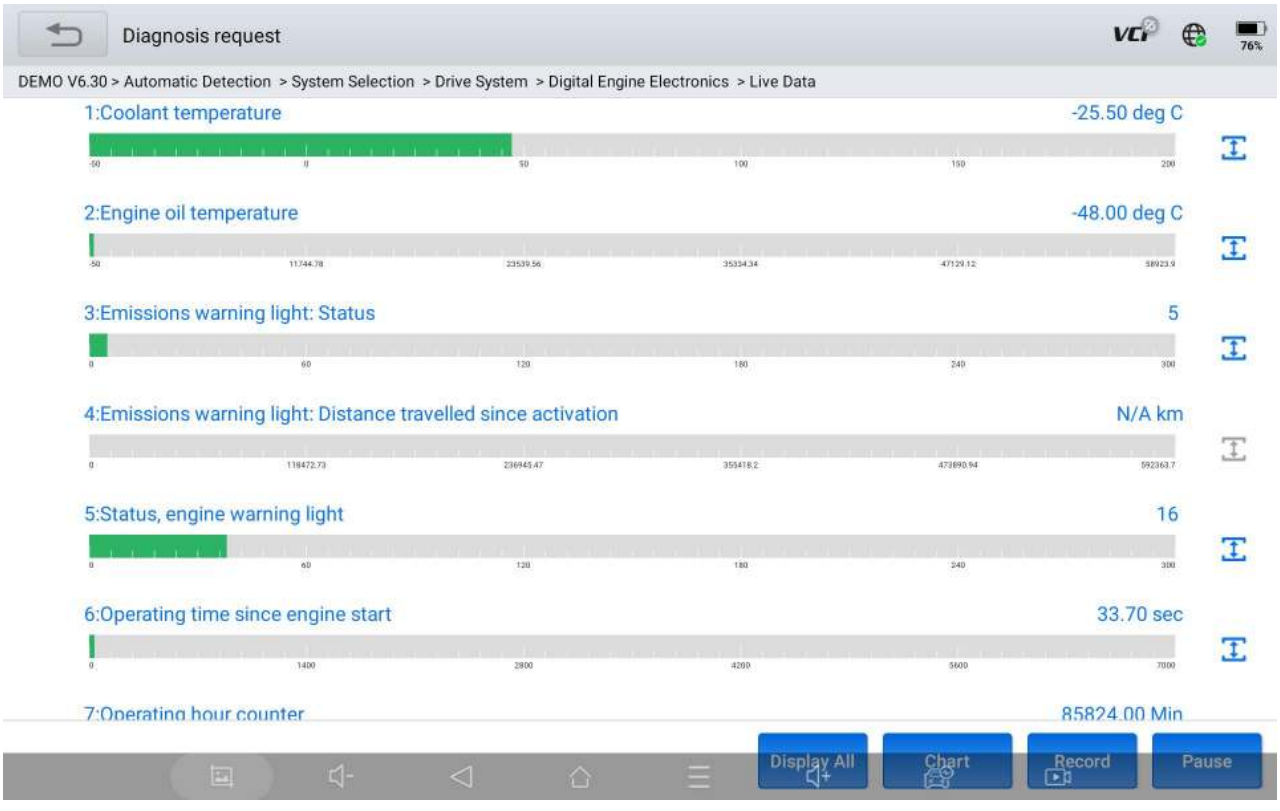


With the click of "chart" button you can choose from four viewing modes： List, Column, Graph, 2D Graph.

List Mode:



Column Mode:



Graph Mode:



Display All-If you want to view or display other PID data, this button allows you to show all available data streams again for selection, so you don't have to go back and choose them again.

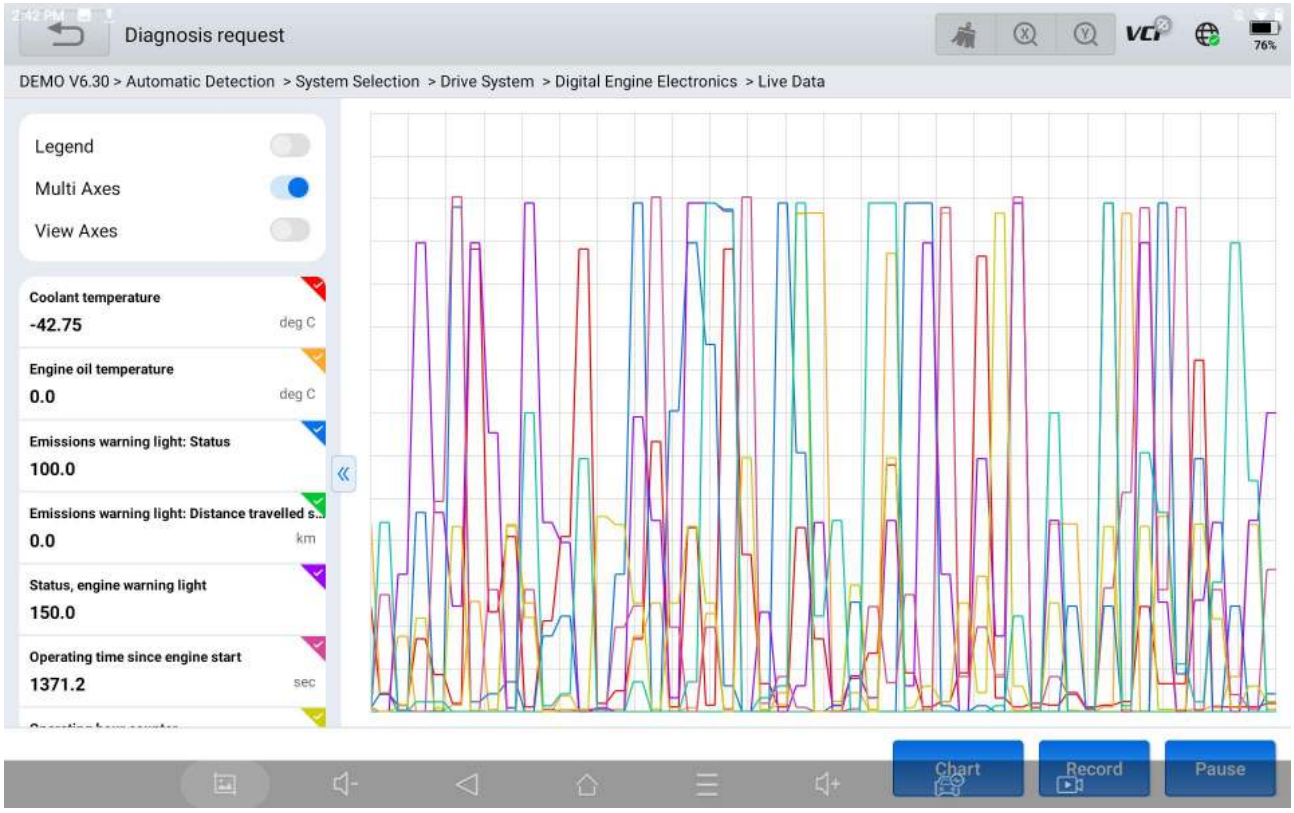
Chart- Choose the format you want: List, Column, Graph, 2D Graph.

Record- To record the PID data for later review in Data Playback.

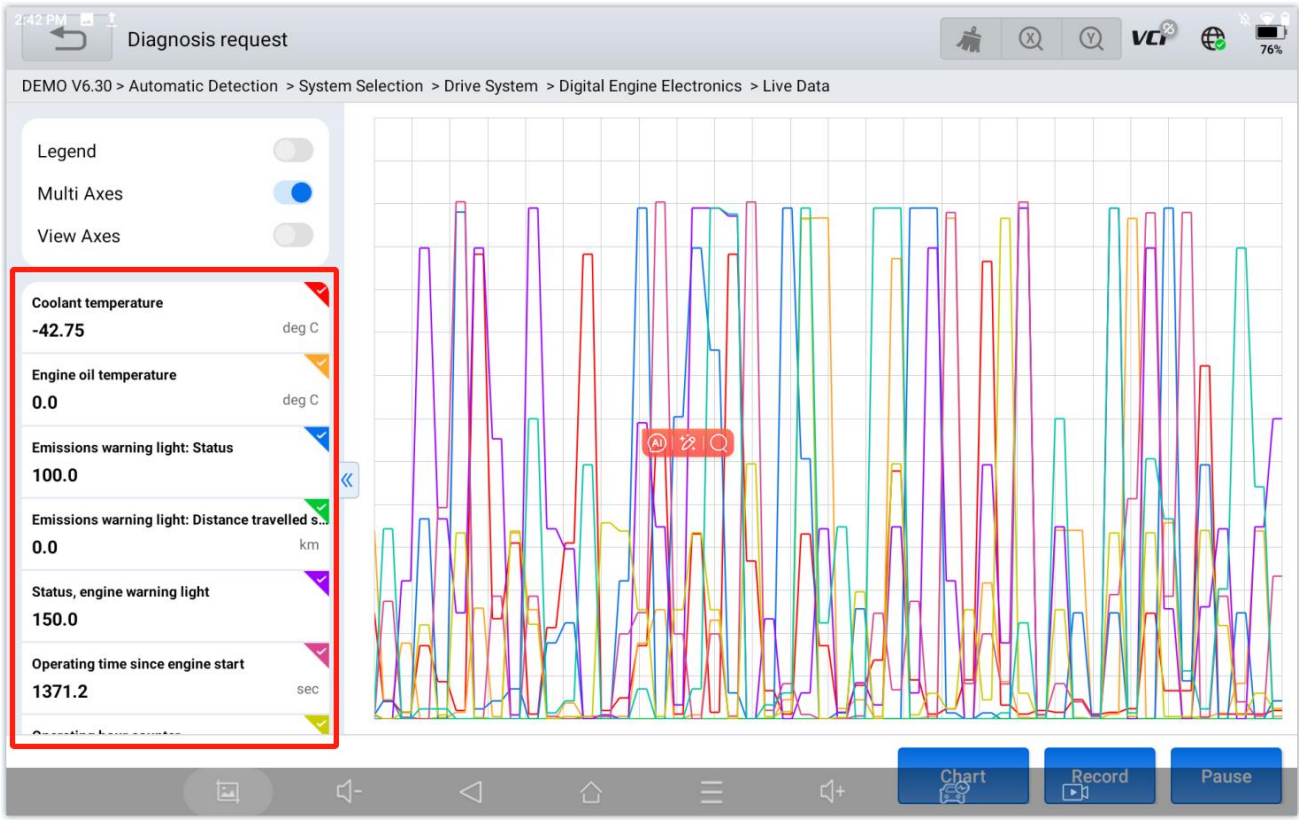
Pause- To pause the continuous retrieving process for the real-time PID data.

4.12.3.7 8-In-1 Graphing

Click "Chart - 2D Graph" to combine individual data bars into a single chart and display it as an image.

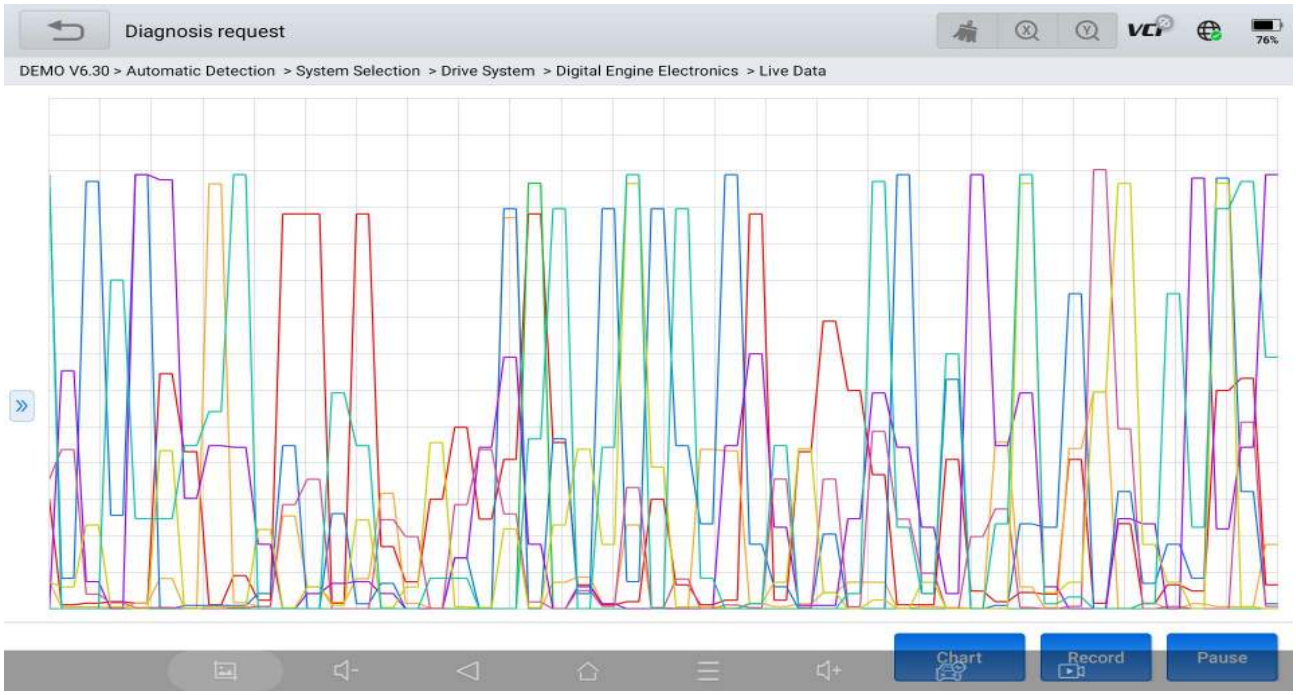


The places have highlighted can be ticked directly to show the data flow, without having to go back and re-select it.



4.12.3.8 Fold & Unfold PID Data Name

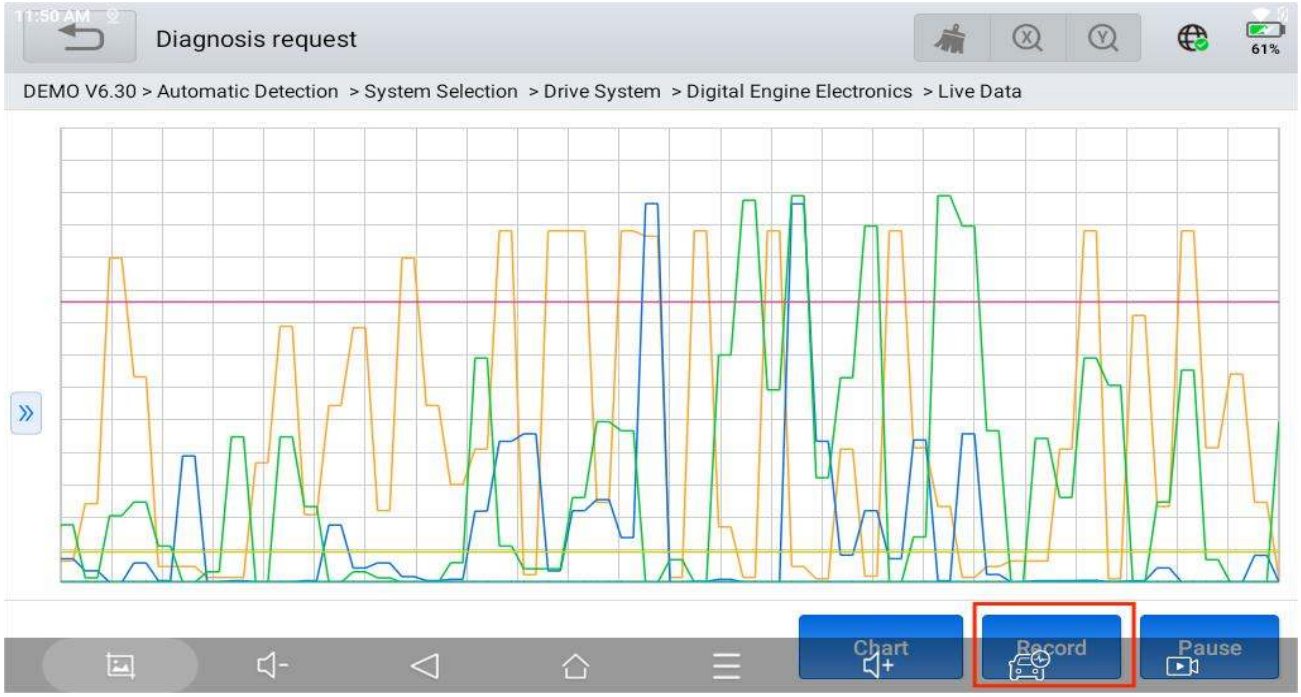
This Diagnostic Tool allows you to fold the PID data name list so that you can view the merged graphs in a bigger screen. To fold the PID data name list, click the up arrow icon as shown below:



To unfold it, click the down arrow icon » if you want to check the name of the PID data.

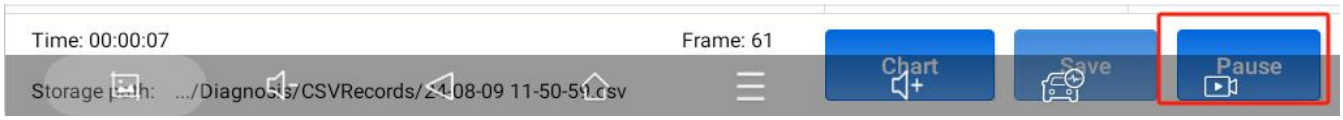
4.12.3.9 Data Recording & Playback

Click the "Record" icon will start recording the PID data for later review through "Report" function.



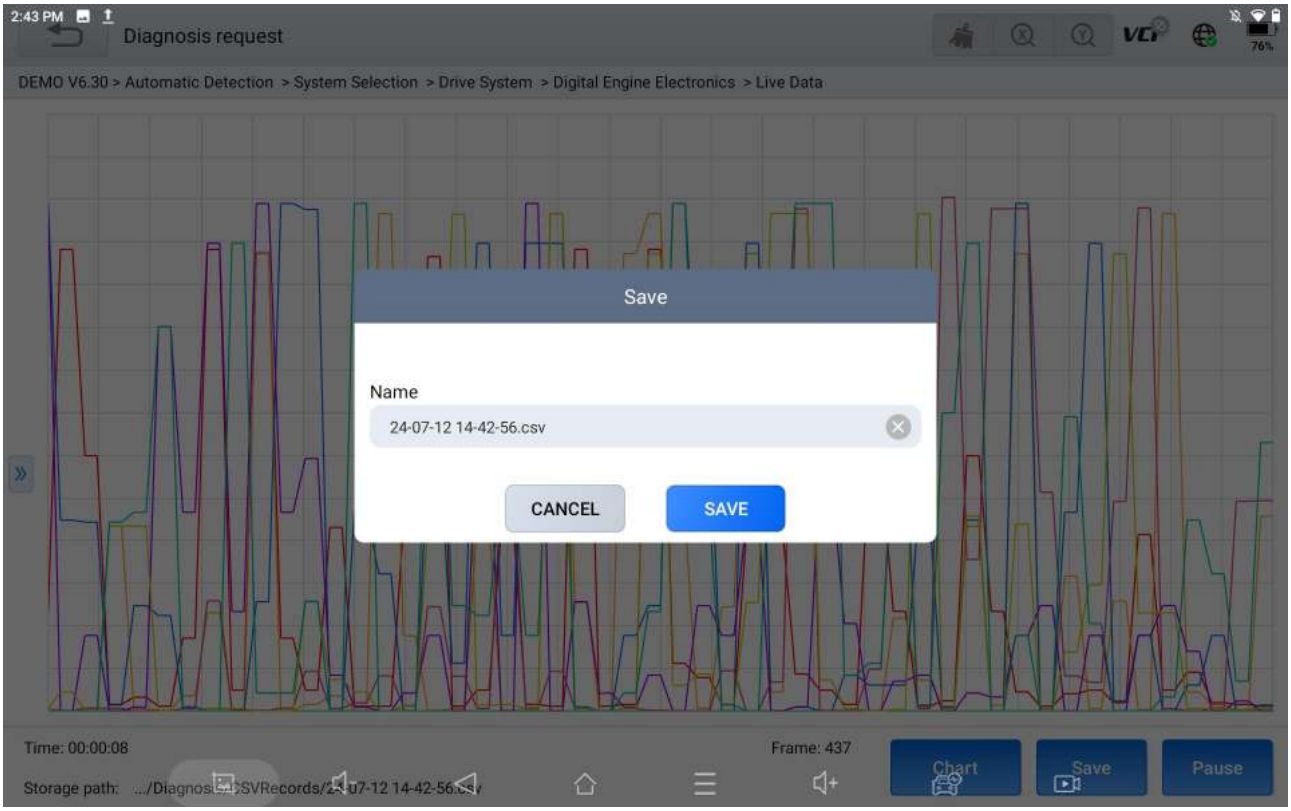
The Diagnostic Tool allows recording the PID data or graphing for later playback. To check recorded PID data, go to Report- Data Playback and click the recorded file to playback.

Click "Pause" button to pause the PID data retrieving process.

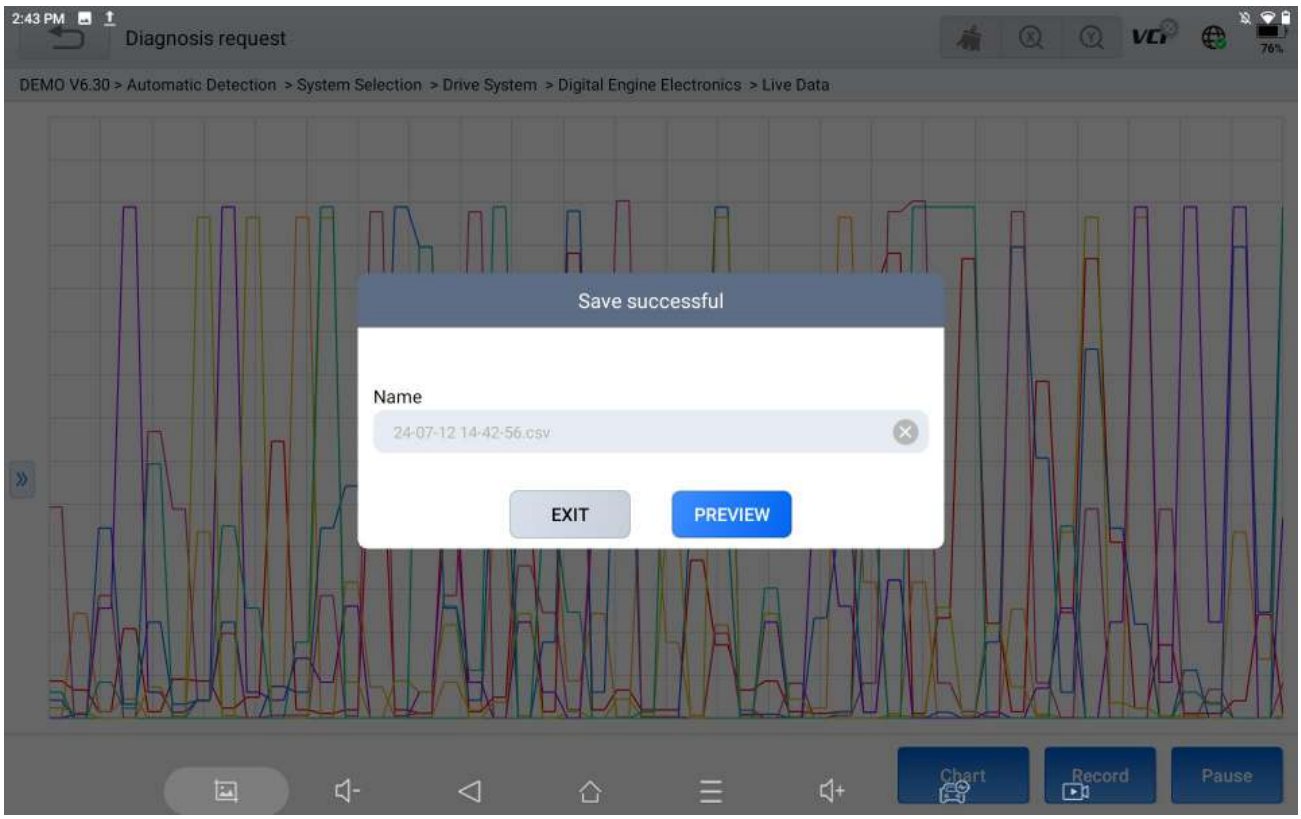


4.12.3.10 Export Data as CSV & Data View

When you click the record button, the "save" button will blink, proving that the data stream has begun to record, when you want to end the recording, click the "save" button again, then you can save the recorded data stream.



When you have done collecting the PID data, click back icon on the top left and a prompt will pop up on the screen for you to rename the CSV file. Clicking "PREVIEW" will allow you to review the generated CSV file.

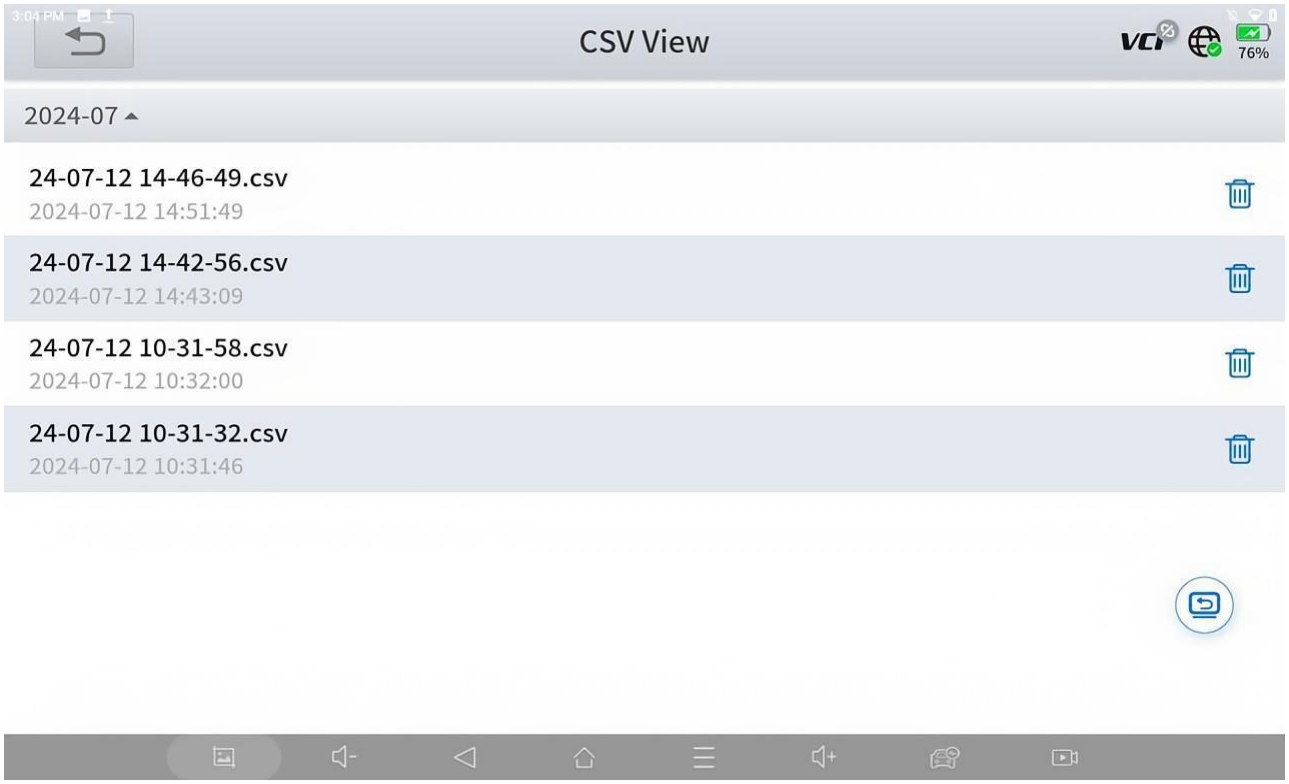


4.12.4 Data View

When you have exported the PID data as CSV file, this Diagnostic Tool allows you to view the CSV file on the screen. Go to Main Diagnostic Screen- Report- Data View as shown in picture below:



Click "CSV View" icon and you will see all CSV file exported as in picture below:



Click the file you want to review and the Diagnostic Tool will display as below:



4.12.5 Export CSV File to a PC

You may export the exported CSV file to a PC for storage or later review as well. Follow the steps below to find the CSV file:

Step 1: Connect the Diagnostic Tool to a PC through the USB Type-C cable.

Step 2: Swipe down from the upper right corner of the Diagnostic Tool and enable "Data Transfer".

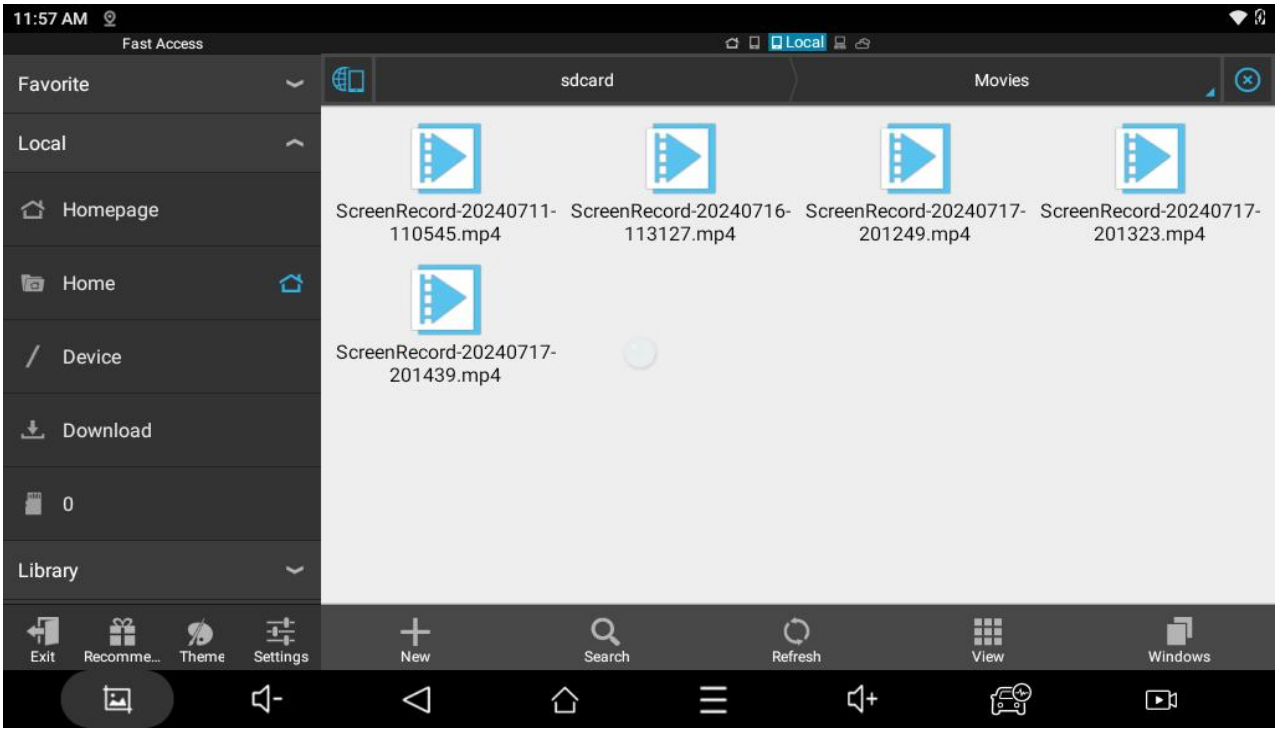
Step 3: Follow the path on your computer and find the CSV file you want to export: My computer > D8S > Internal Shared Storage > Diagnosis > CSV records, select the CSV file you want to export and copy it to your PC memory.

4.12.6 Share CSV File via Bluetooth

If you want to share the CSV file to an Android tablet or phone, you may follow the path below:

Step 1: Swipe up the hidden toolbar and click home icon to go to main screen of the Android tablet.

Step 2: Click "File"> Local > Home > Diagnosis> CSV_records > Press and hold the CSV file you want to export to activate the selection box> tick the box> Click "More" at the bottom left of the screen> Share > Bluetooth > select the device you want to share.



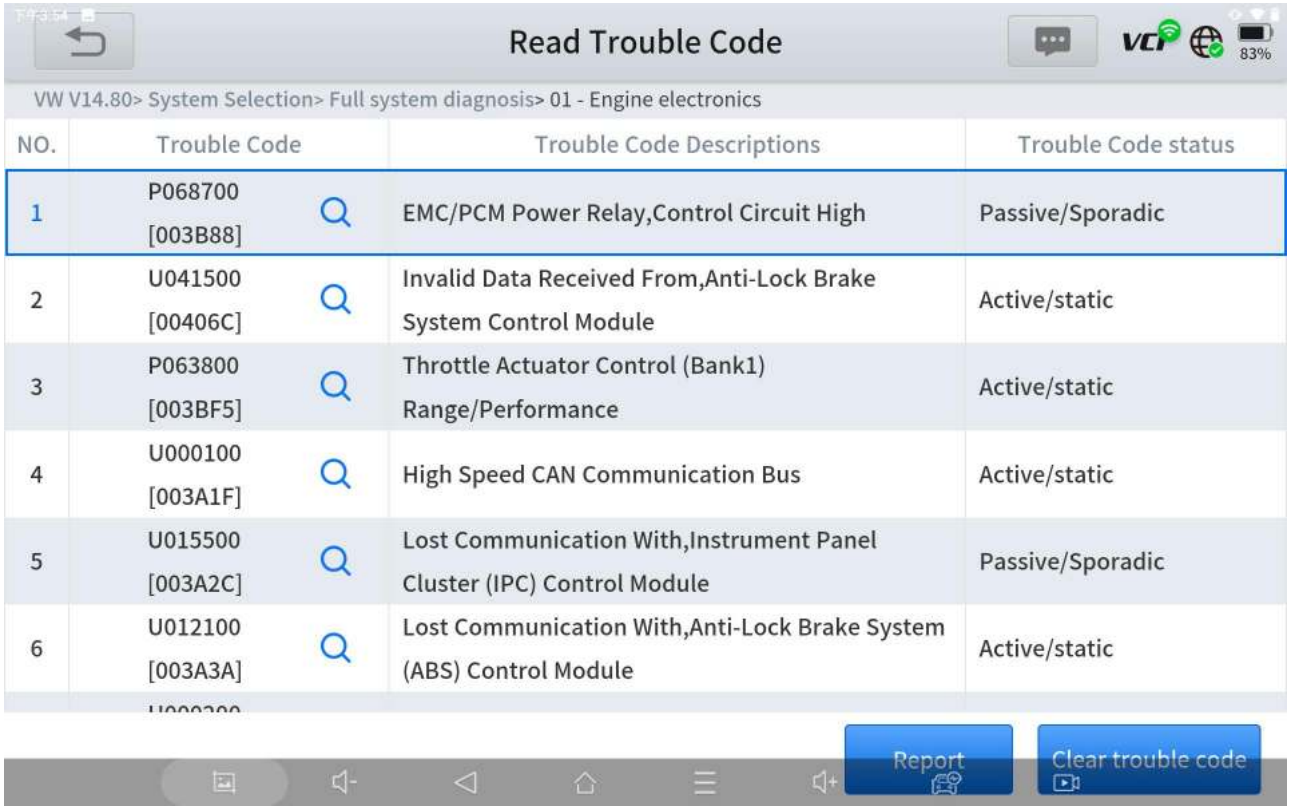
NOTE:

You can not share the file to a device that runs iOS system from Android tablet.

4.12.7 Freeze Frame

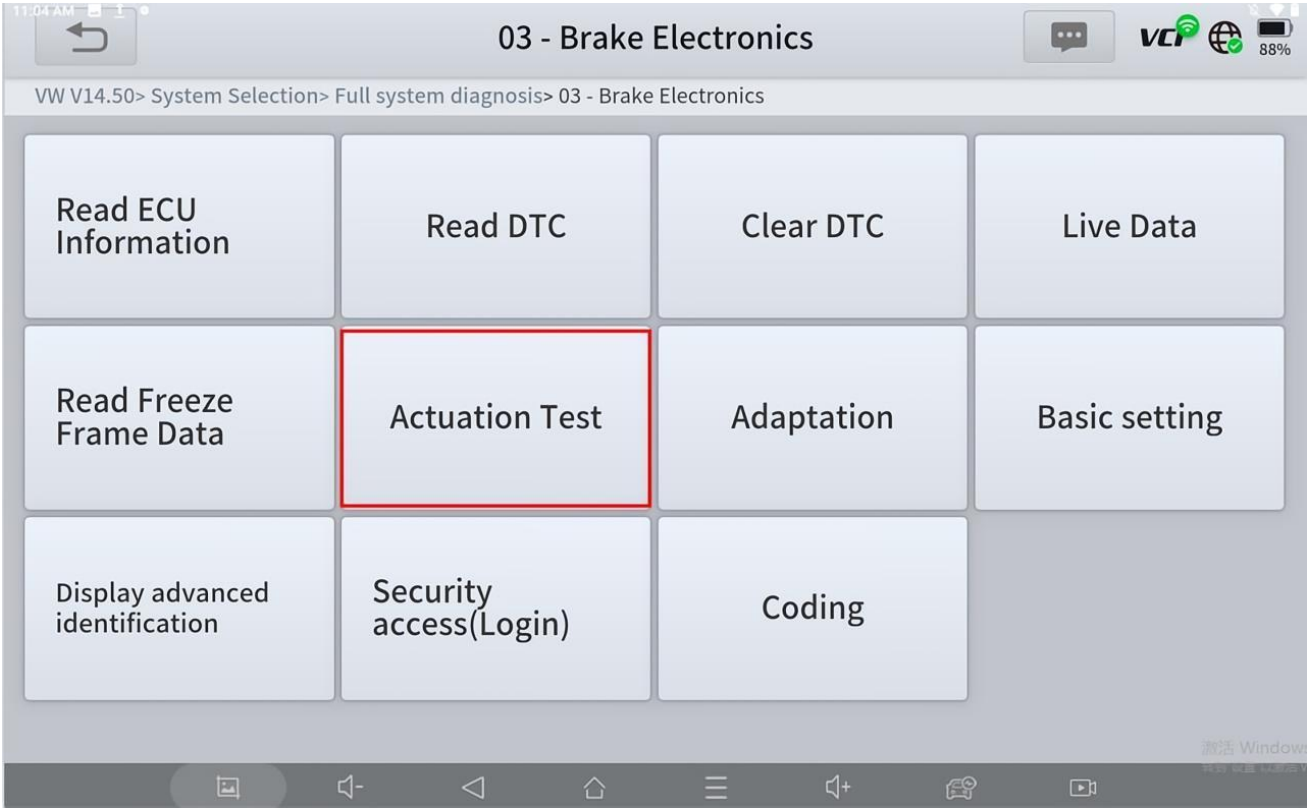
When a fault code is triggered, the vehicle ECU will save related data at that moment to generate a freeze frame. It is usually used to analyze the root cause that triggers the fault code, together with fault codes and PID data.

Freeze frame displayed varies across vehicles. Some vehicles may not have the option of freeze frame which means that the vehicle does not support this function.



4.12.8 Actuation Tests(Bi-Directional Controls)

Actuation tests, often known as bi-directional controls or bi-directional tests, checks the operation of certain actuators, such as solenoid, valves and relays.



4.12.9 Special Function

The Diagnostic Tool can perform advanced functions such as resets, relearns, matchings, adaptations, initializations, and more. The available menu options may vary depending on the vehicle being diagnosed.

The special functions listed under the diagnostic menu include some that are also found under "Special Function" on the main diagnostic screen. However, the diagnostic menu offers a broader range of options compared to those available on the main diagnostic screen.

4.12.10 To Exit the Diagnostics

Diagnostics remain active as long as there is an active communication link with the vehicle. To exit tests and turn off the Diagnostic Tool, you must first interrupt this communication link. A warning message will appear if you manage to shut down the Diagnostic Tool while it is communicating with the vehicle.

NOTE:

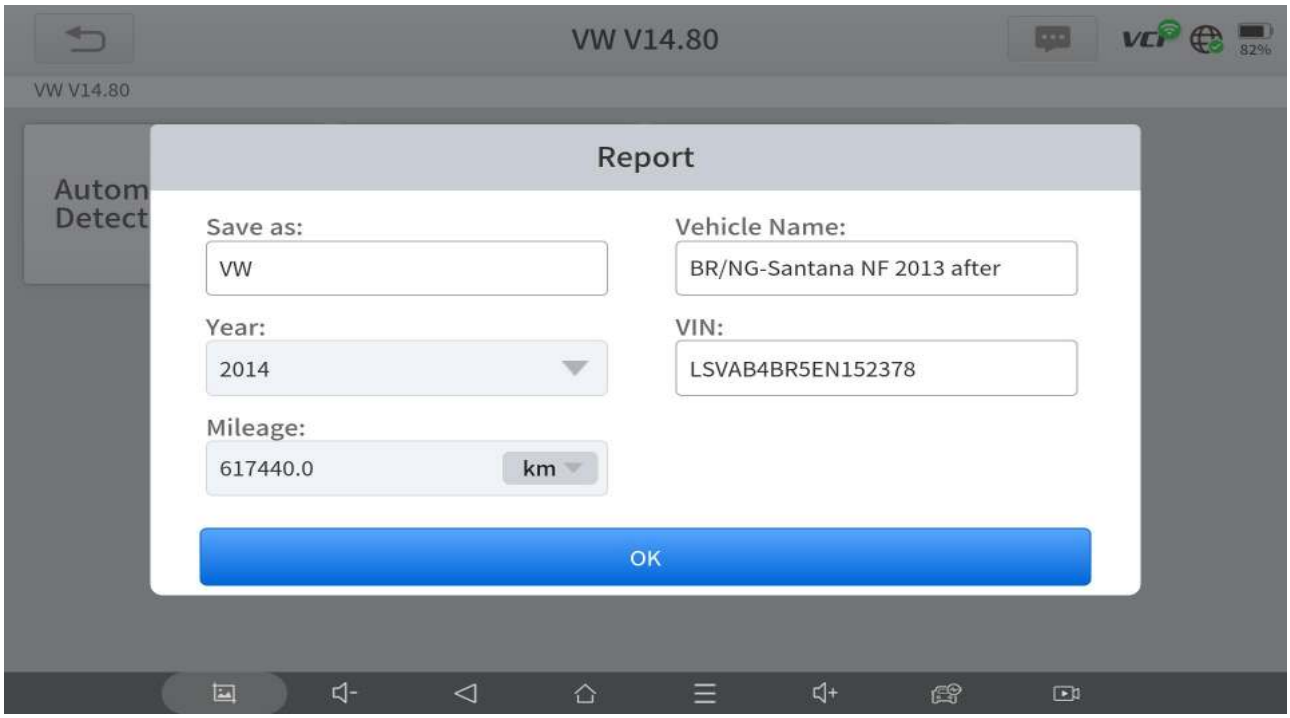
Damage to the vehicle electronic control module (ECU) may occur if communication is disrupted. Ensure that the main cable is properly connected at all times during testing. Exit all tests before disconnecting the main cable or turning off the Diagnostic Tool.

Pressing the back button on the screen until you reach the main menu, or closing the diagnostic program entirely, will interrupt vehicle communication and exit diagnostics.

4.13 Full System Diagnostic Report

After completing the diagnostics and returning to the main diagnostic screen, enter the VIN number, mileage, and model year. Click "OK" in the report generating form to create a diagnostic report for later review or sharing.

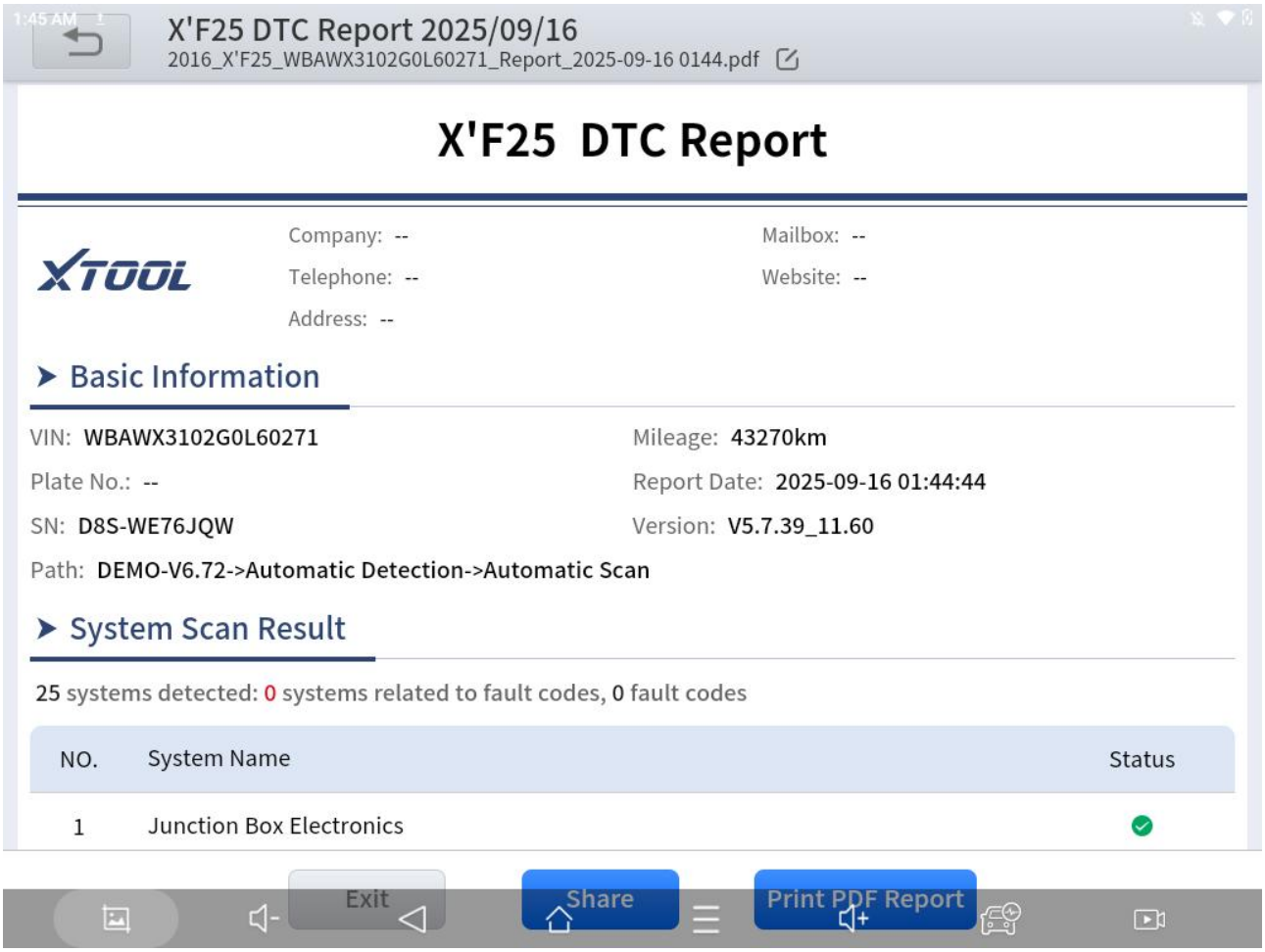
To distinguish this diagnostic report from the one generated during the vehicle scan or Auto Scan screen, we refer to it as the "Full System Diagnostic Report".



Go to "Report" on the main diagnostic screen and click "Diagnosis Report" to view all diagnostic reports generated. Click to view the report you would like to review according to the date and time it's generated or share to an email by clicking "Share by E-mail" or print it out by clicking "Print PDF Report".

4.14 Fault Code Report

The other way to generate diagnostic report is through the vehicle scan/Auto Scan result screen. When you have done scanning all available vehicle electronic control modules, a generate "Report" option is available at the bottom which generates a simplified version diagnostic report that only displays the fault codes retrieved and the vehicle systems impacted. We call this report as "Fault Code Report" to differentiate it from the "Full System Diagnostic Report". And a typical "Fault Code Report" is as shown in picture below:



NOTE:

The diagnostic report generated on the vehicle scan/Auto Scan screen, namely "Fault Code Report" is generated to show the fault codes for quick repair. While the diagnostic report generated exiting diagnostic menu is a "Full System Diagnostic Report" to show health conditions of all vehicle systems equipped. Both of the reports are stored in the "Diagnosis Report" section and there are actually NO such labels attached to the reports to differentiate them as "Full System Diagnostic Report" or "Fault Code Report".

4.15 Diagnostic Speed

The Diagnostic Tool provides fast all vehicle modules scan and diagnostics. However, the time it takes to scan & diagnostic all vehicle modules varies across vehicles. Factors that could influence the diagnostic speed includes the vehicle communication protocol the vehicle uses and number of vehicle control modules it's equipped.

Generally speaking, the Diagnostic Tool scans all vehicle modules faster for vehicles using latest vehicle communication protocols than older ones. For example, scanning a vehicle uses CAN protocol for vehicle communication takes less time than an older IOS9141 protocol.

And it takes longer time to scan a modern vehicle that has many modules equipped than a less sophisticated vehicle that has just a few modules available.

4.16 Integrated Module

In some cases, particularly with older vehicle models, manufacturers may integrate two or more electronic control systems into a single vehicle module. This integration can sometimes lead to confusion or complexity during diagnostics and repair processes.

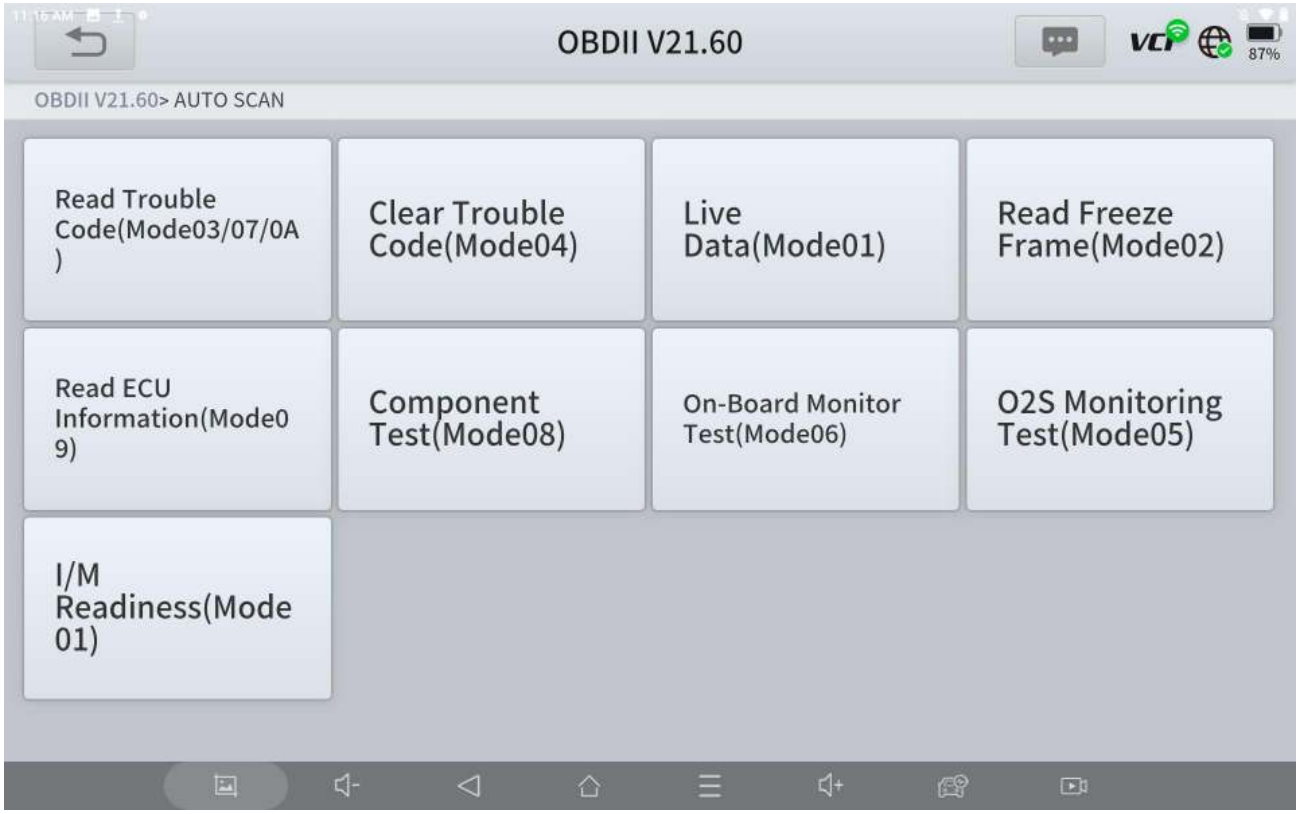
Listed below are two most common examples:
Powertrain Control Module(PCM)- Integrates Engine and Transmission systems.
Brake Control Module(BCM)- Integrates ABS and EPB systems.

The information above indicates that if you cannot find "Transmission" or a similar name in the diagnostic menu, you should locate "Transmission Oil Temperature" under the PID data (live data) menu of the Powertrain Control Module (or PCM). Similarly, if you are looking for the ABS Bleeding feature, you should go to the Special Function under the Brake Control Module (BCM). This approach helps navigate and locate specific diagnostic features within the Diagnostic Tool's interface.

5.OBD-II

This chapter describes the concept, protocols, test functions and the basic operation of the OBD-II function. To find OBD-II function, go to Diagnostic- Region Selection-OBD-II.

This option presents a quick way to check for DTCs, locate the cause of an illuminated malfunction indicator lamp (MIL), check monitor status prior to emissions certification testing, verify repairs, and perform a number of other services that are emissions-related.
The OBD-II function allows you to access "generic" OBD-II data.
Generic OBD-II data is data limited to emission related diagnostics such as:
• Checking for emissions-related diagnostic trouble codes (DTCs)
• Checking the cause of an illuminated malfunction indicator lamp (MIL)
• Checking monitor status prior to emissions certification testing



To access other available electronic control module (ECU) data for vehicle specific systems, parameters or enhanced diagnostics use the "AUTO SCAN" or "Diagnostic" and enter all systems diagnostics or individual system diagnostics. The OBD-II function are used to access "generic" OBD-II/EOBD data for OBD-II/EOBD compliant vehicles that are not included in the all systems/individual systems diagnostics.

IMPORTANT:

Generic OBD-II/EOBD data are not included in the engine system diagnostic data.

5.1 OBD-II Protocols

Global OBD uses 5 communication protocols:

- J1850PWM
- J1850VPW
- ISO 9141-2
- ISO 14230-4
- ISO 15765-4(CAN)

5.2 Basic Operations

To access generic OBD-II/EOBD data, please follow the steps below:

Step 1: Click "Diagnostic" on the main diagnostic screen

Step 2: Select the region where the vehicle manufacturer is originated

Step 3: Click "OBD-II" icon beside the DEMO



5.3 Auto Scan & Protocol Selection

And there are two options to access the OBD-II/EOBD data of the vehicle connected.

5.3.1 Auto Scan

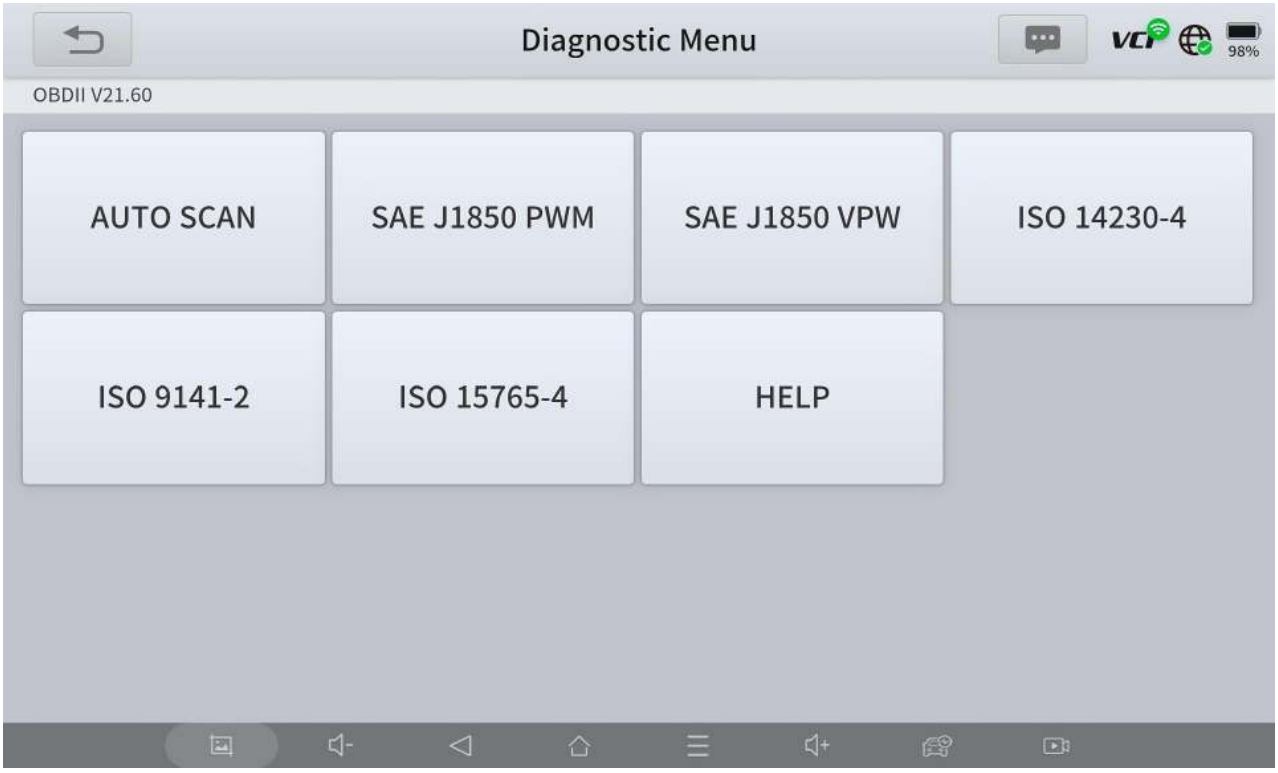
When this option is selected, the Diagnostic Tool attempts to establish communication by sequentially trying each protocol in order to determine which one the vehicle uses for communication. This method helps the tool identify and connect with the vehicle's electronic control modules using the appropriate communication protocol.

5.3.2 Protocol Selection

A communication protocol serves as a standardized method for data exchange between an ECM (Electronic Control Module) and a Diagnostic Tool. Knowing the specific protocol your vehicle uses facilitates direct selection of the corresponding protocol. This ensures effective communication between the Diagnostic Tool and the vehicle's electronic systems, using the correct protocol for accurate diagnostics and troubleshooting.

5.3.3 Help

Describes DLC location, DTC library, Abbreviations and OBD background information like OBD-II modes and etc.



5.4 10 Modes of OBD-II

Mode $01 – I/M Readiness

Mode $02 – Read Freeze Frame

Mode $03 – Read Trouble Code

Mode $04 – Clear Trouble Code

Mode $05 – O_2S Monitoring Test

Mode $06 – On-Board Monitor Test

Mode $07 – Read Trouble Code

Mode $08 – Component Test

Mode $09 – vehicle information

Mode $0A – Read Trouble Code

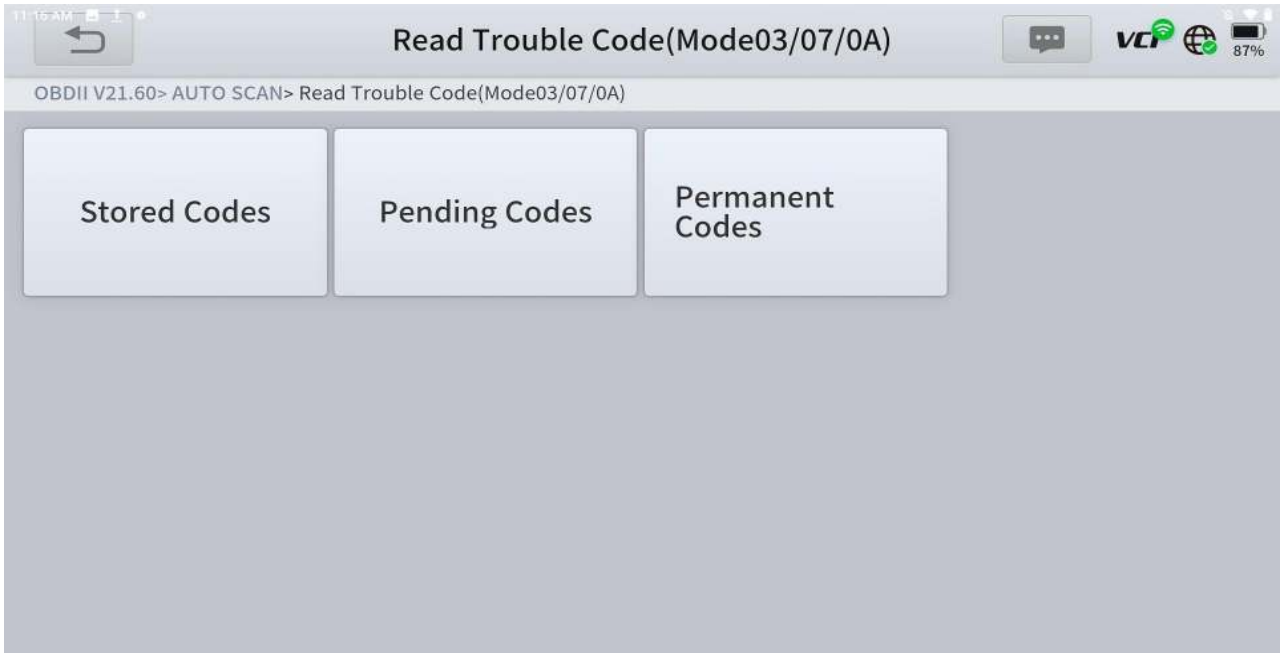
5.5 Connecting the Main Cable

Connection of the main cable to the Diagnostic Tool and vehicle OBD-II port is required for OBD-II/EOBD testing, see Connecting the Main Cable, on page 33.

5.6 OBD-II/EOBD Menu

5.6.1 Read Trouble Code

The "Read Trouble Code" option displays a list of current emission related DTCs, including Stored Codes(Generic Codes and Manufacturer-Specific Codes), Pending Codes, and Permanent Codes.



OBD-II/EOBD codes are prioritized based on their emission severity, with higher priority codes taking precedence over lower priority ones. This prioritization affects whether the Malfunction Indicator Lamp (MIL) illuminates and how the code erase procedure is managed. Different vehicle manufacturers implement these priorities in varying ways, resulting in differences in how codes are ranked and addressed across various makes and models.

5.6.1.1 Stored Codes

Stored codes are the current emission related DTCs from the ECM of the vehicle.

OBD-II Codes have a priority according to their emission severity, with higher priority codes overwriting lower priority codes. The priority of the code determines the illumination of the MIL and the code erase procedure. Vehicle manufacturers have implemented the ranking differently, so there are differences between makes.

5.6.1.2 Pending Codes

The purpose of this function is to enable the Diagnostic Tool to obtain "pending" or maturing diagnostic trouble codes. These are codes whose setting conditions were met during the last drive cycle, but need to be met on two or more consecutive drive cycles before the DTC actually sets.

Use this function following a vehicle repair and code clearing procedure to verify test results after a single drive cycle.

- If a test failed during the drive cycle, the DTC associated with that test is reported. If the pending fault does not occur again within 40 to 80 warm-up cycles, the fault is automatically cleared from memory.
- Test results reported by this function do not necessarily indicate a faulty component or system. If test results indicate another failure after additional driving, then a DTC is set to indicate a faulty component or system, and the MIL is illuminated.

5.6.1.3 Permanent Codes

This option displays a record of any "Permanent" codes. A permanent status DTC is one that was severe enough to illuminate the MIL at some point, but the MIL may not be on at the present time.

Whether the MIL was switched off by clearing codes or because the setting conditions did not repeat after a specified number of drive cycles, a record of the DTC is retained by the ECM. Permanent status codes automatically clear after repairs have been made and the related system monitor runs successfully.

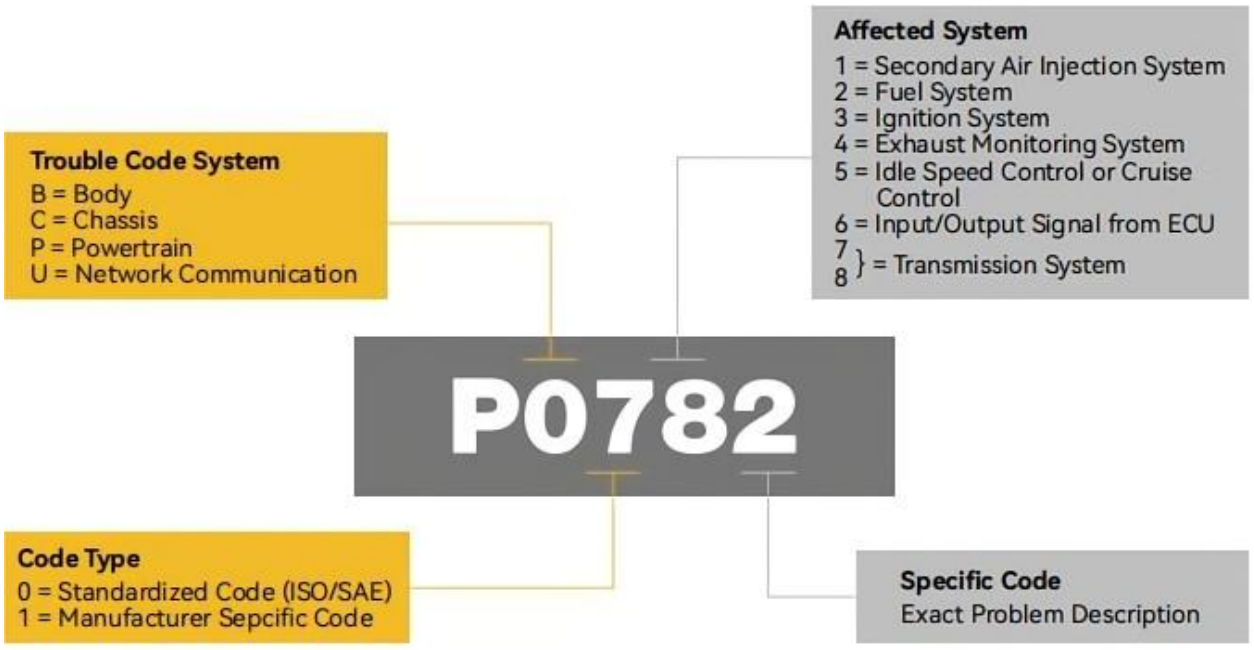
5.6.1.4 Generic & Manufacturer-Specific Codes

Code Definitions:

Diagnostic Trouble Code (DTC) -- Trouble codes are how OBD-II identifies and communicates to technicians where and what on-board problems exist. The first number in the DTC indicates whether the code is an SAE generic code (applies to all OBD-II systems) or is specific to the vehicle manufacturer. The remaining three numbers provide information regarding the specific vehicle system and circuit. An analysis of a typical OBD-II code is shown below.

Generic Codes -- DTC with the second character as "0" is a Generic Code.

Manufacturer- Specific Code -- DTC with second character as "1" is a Manufacturer-Specific Code.



5.6.1.5 Permanent Codes

5.6.1.5.1 First DTC Character

The first DTC character is always a letter. There are four types of codes:

- **P Codes**, "P" indicates a problem with the powertrain. It includes the engine, transmission, drivetrain, and fuel system.
- **C Codes**, "C" indicates a problem with the chassis. It refers to mechanical systems outside the passenger compartment, such as steering, suspension, and braking.

● **B Codes**, "B" indicates a problem with the body. It covers parts that are found in the passenger compartment area.

● **U Codes**, "U" indicates a problem with the vehicle's onboard computers and integration functions that the OBD manages.

5.6.1.5.2 Second DTC Character

The second DTC character is a numeric digit, either a "0" or a "1":

0, A "0" indicates a standard SAE international code. It's also known as a generic code, meaning that it applies to all vehicles following the OBD-II international standard.

1, A "1" represents a code that is specific to the car's make or model. It's known as an enhanced code, meaning it doesn't fall under an SAE standard. If you see a "1," reach out to the vehicle manufacturer directly for more information.

5.6.1.5.3 Third DTC Character

If the second DTC character is a "0," then the third character helps you determine which subsystems are malfunctioning. There are eight numbers:

0, Fuel and air metering and auxiliary emission controls

1, Fuel and air metering injection system

2, Fuel and air metering (injection system)

3, Ignition systems or misfires

4, Auxiliary emission controls

5, Vehicle speed control, idle control systems, and auxiliary inputs

6, Computer output circuit

7-8, Transmission

5.6.1.5.4 Fourth and Fifth DTC Character

The fourth and fifth DTC codes are two-digit numbers from 0 to 99, known as the "Specific Fault Index." It identifies the exact malfunction that a vehicle has.

5.6.2 Clear Trouble Code(Mode $04)

This option is designed to erase all emission-related diagnostic data stored in the memory of the selected ECM. This includes Diagnostic Trouble Codes (DTCs), freeze frame data, and test results. While OBD-II/EOBD displays generic data only, clearing codes removes all stored information, including any enhanced codes and freeze frame details.

When you select the clear codes function, a confirmation screen appears to prevent accidental data loss. You must choose "Yes" on the confirmation screen to proceed with the operation.

5.6.3 Live Data(Mode $01)

Use this function to view current emission-related data from the selected electronic control module (ECM) of the vehicle. The main screen layout consists of two primary columns: the left-hand column provides descriptions of each parameter, while the right-hand column displays the corresponding parameter values along with their units or states.

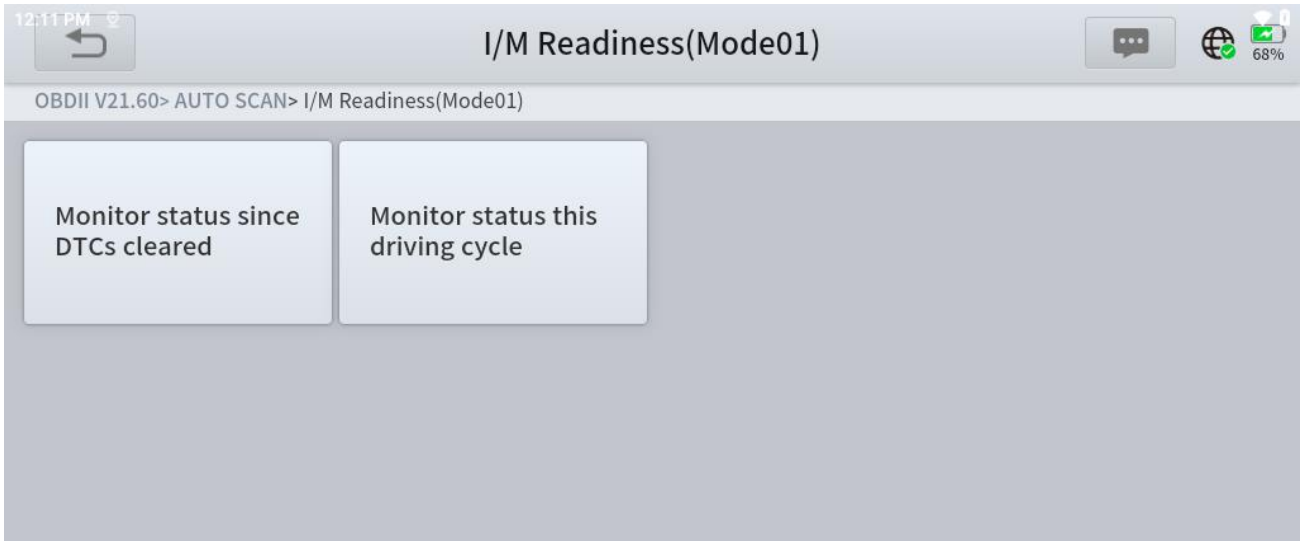
5.6.4 Read Freeze Frame(Mode $02)

Freeze frame data provides a snapshot of critical parameter values at the moment a diagnostic trouble code (DTC) is set. This function allows you to display freeze frame data for any stored emission-related DTC. Typically, the stored freeze frame data corresponds to the last DTC that occurred.

However, for certain DTCs that have a significant impact on vehicle emissions, priority is given. In these cases, the highest priority DTC is the one for which the freeze frame records are retained, ensuring critical diagnostic information is preserved.

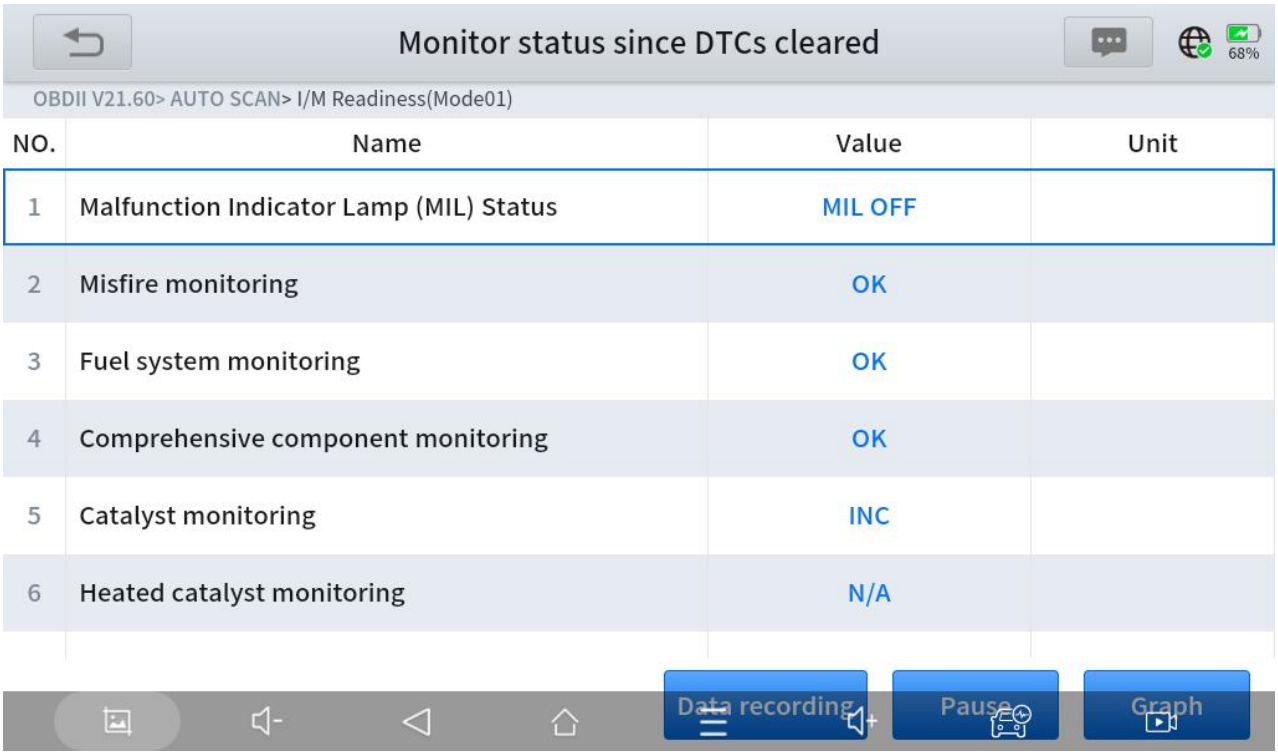
5.6.5 I/M Readiness(Smog Check)

This function is used to check the readiness of the monitoring system. It is an excellent function to use prior to having a vehicle inspected for compliance to a state emissions program. Selecting I/M Readiness opens a sub-menu with two choices:



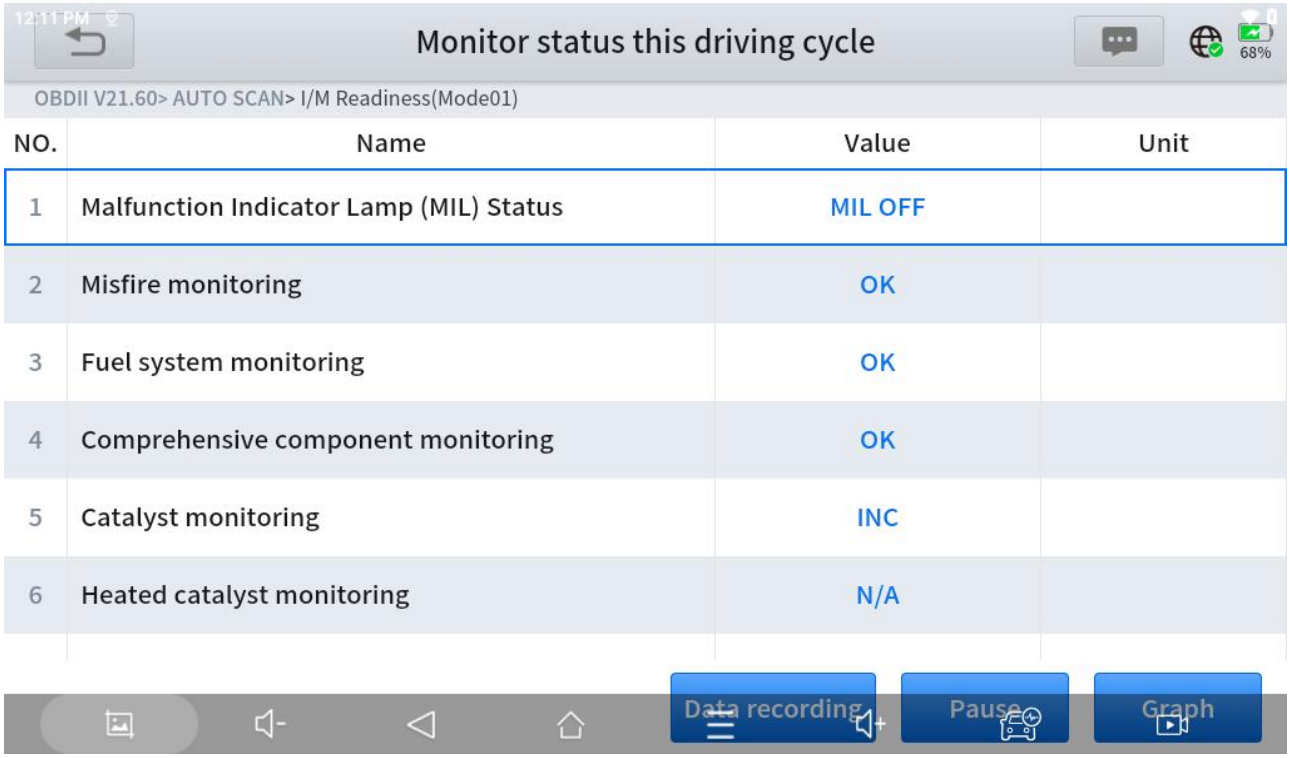
5.6.5.1 Since DTCs Cleared

Displays the status of monitors since the last time the DTCs are cleared



5.6.5.2 This Driving Cycle

Displays the status of monitors since the beginning of the current driving cycle.



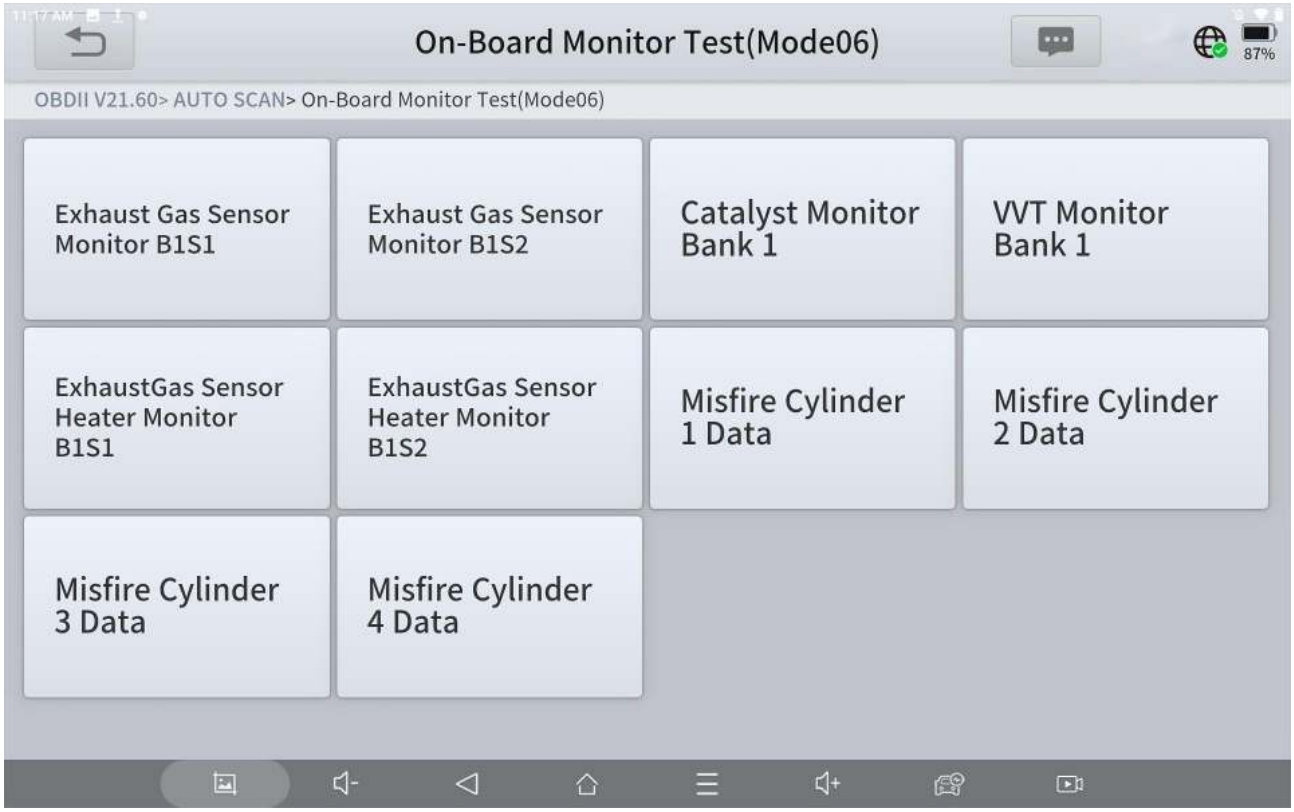
5.6.6 O_2S Monitoring Test(Mode $05)

This option opens a menu of tests designed to check the integrity of the oxygen sensors (O_2S). Selecting a test displays all pertinent O_2S parameters specific to that test. The test ID is prominently displayed at the top of the data list.

5.6.7 On-Board Monitor Test (Mode $06)

This function allows you to view the results of On-Board Monitor (OBM) tests. These tests are particularly useful after vehicle servicing or after erasing the vehicle's control module memory. Upon accessing this function, a menu of available test results for monitored systems is displayed.

The data provided pertains to specific systems and components that the onboard diagnostic system continuously monitors, such as misfire counters, as well as those it monitors intermittently. Selecting a specific system or component displays its corresponding test results.



5.6.8 Component Test(Mode $08)

This function enables bidirectional control (to limited extend) of the ECM. The purpose of this function is to allow the Diagnostic Tool to control the operation of an onboard system, test, or component, such as EVAP leakage test or other test. This function is useful in determining whether the ECM responds to a command well.

5.6.9 Read Vehicle Information(Mode $09)

The purpose of this function is to enable the Diagnostic Tool to request and display vehicle-specific information, such as the vehicle identification number (VIN), the calibration identification, and the calibration verification number (CVN), of the test vehicle.

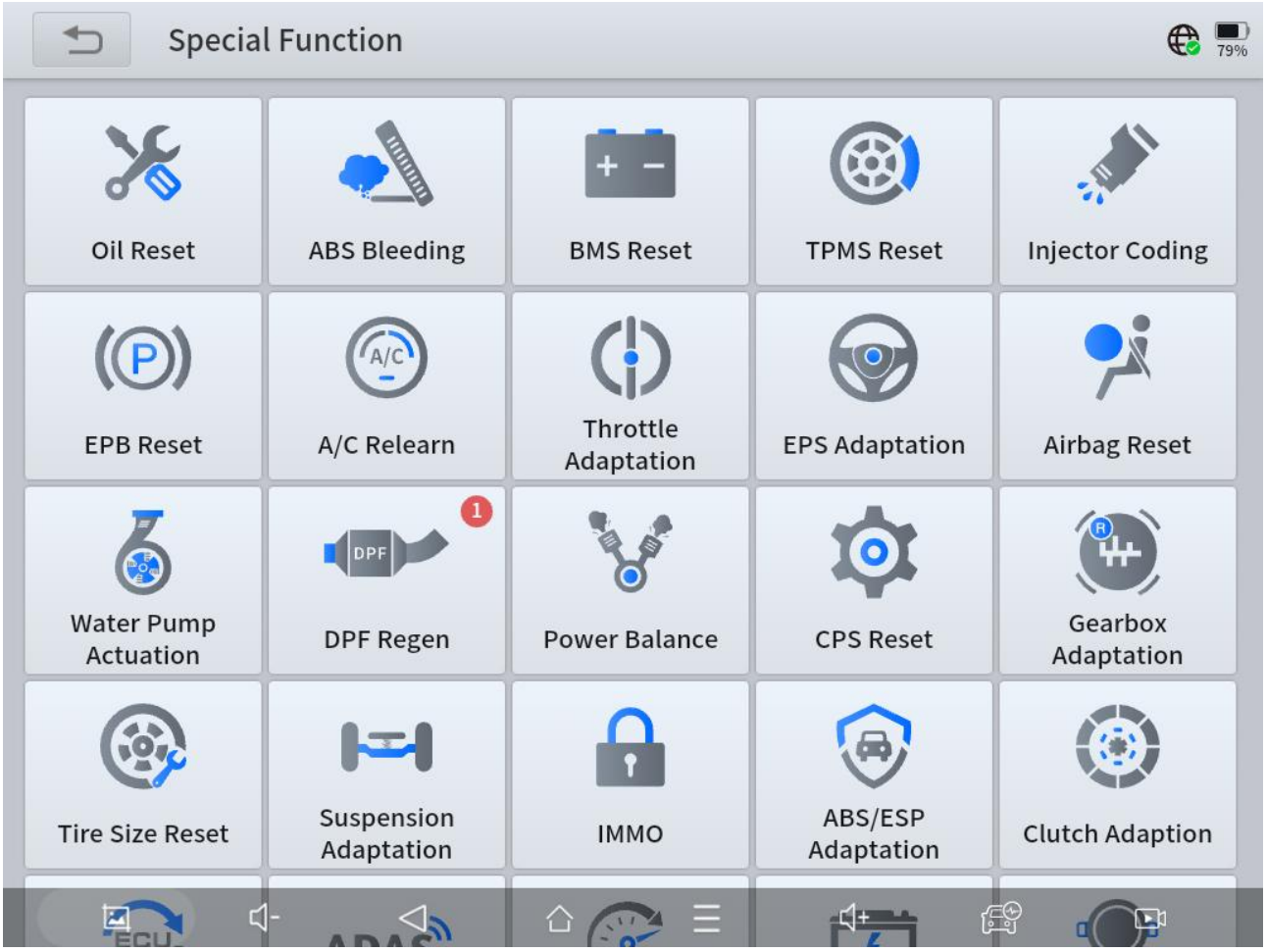
IMPORTANT:

Not all vehicles support all service modes, so the available menu selections will vary accordingly.

---

6. Special Functions

This chapter details various scheduled service and maintenance functions, also referred to as "Special Functions." A typical special function screen presents a series of menu-driven executive commands. By following on-screen instructions to select appropriate execution options, enter correct values or data, and perform necessary actions, the screen prompts will guide you through the complete process for various special functions.



6.1 Oil Reset

The Diagnostic Tool can be used to reset the engine oil life system, which calculates the optimum oil life change interval based on the vehicle's driving conditions and climate. The oil life reminder must be reset each time the oil is changed so that the system can calculate when the next oil change is due.

This function can be performed in the following cases:

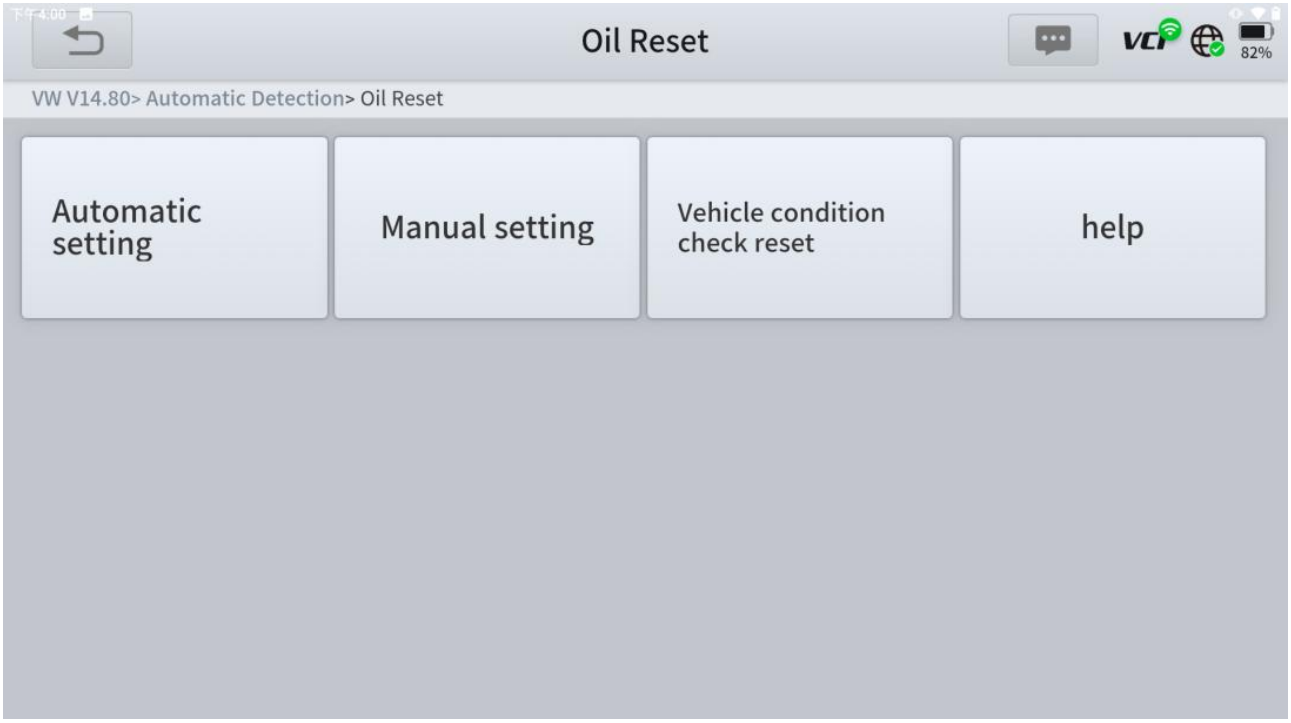
- If the service lamp is on, you must provide service for the car. After service, you need to reset the driving mileage or driving time so that the service lamp turns off and the system enables the new service cycle.
- After changing engine oil or electric appliances that monitor oil life, you need to reset the service lamp.

The operation guidelines of the Oil Reset function are shown as below:

Step 1: Enter the Oil Reset menu and select vehicle model according to the vehicle being tested.



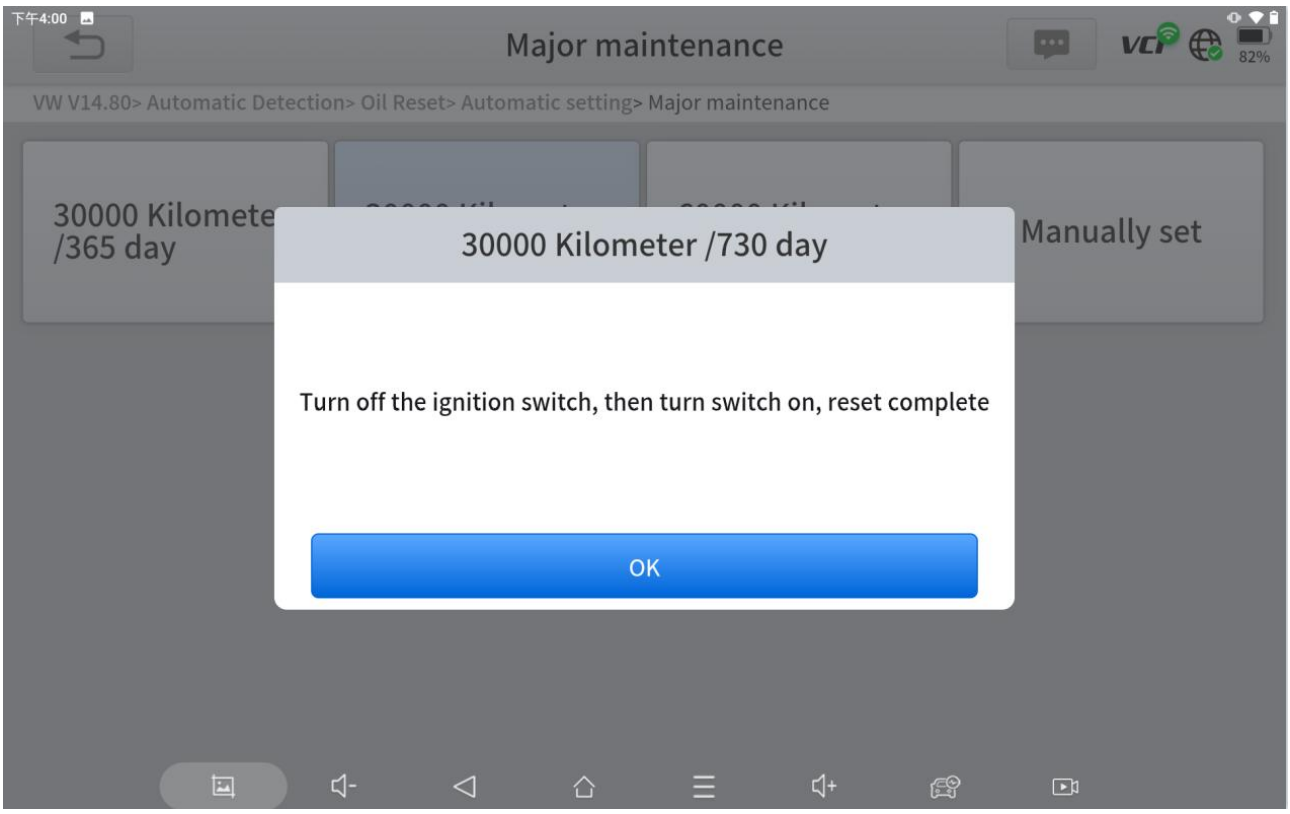
Step 2: Select the appropriate identification method.



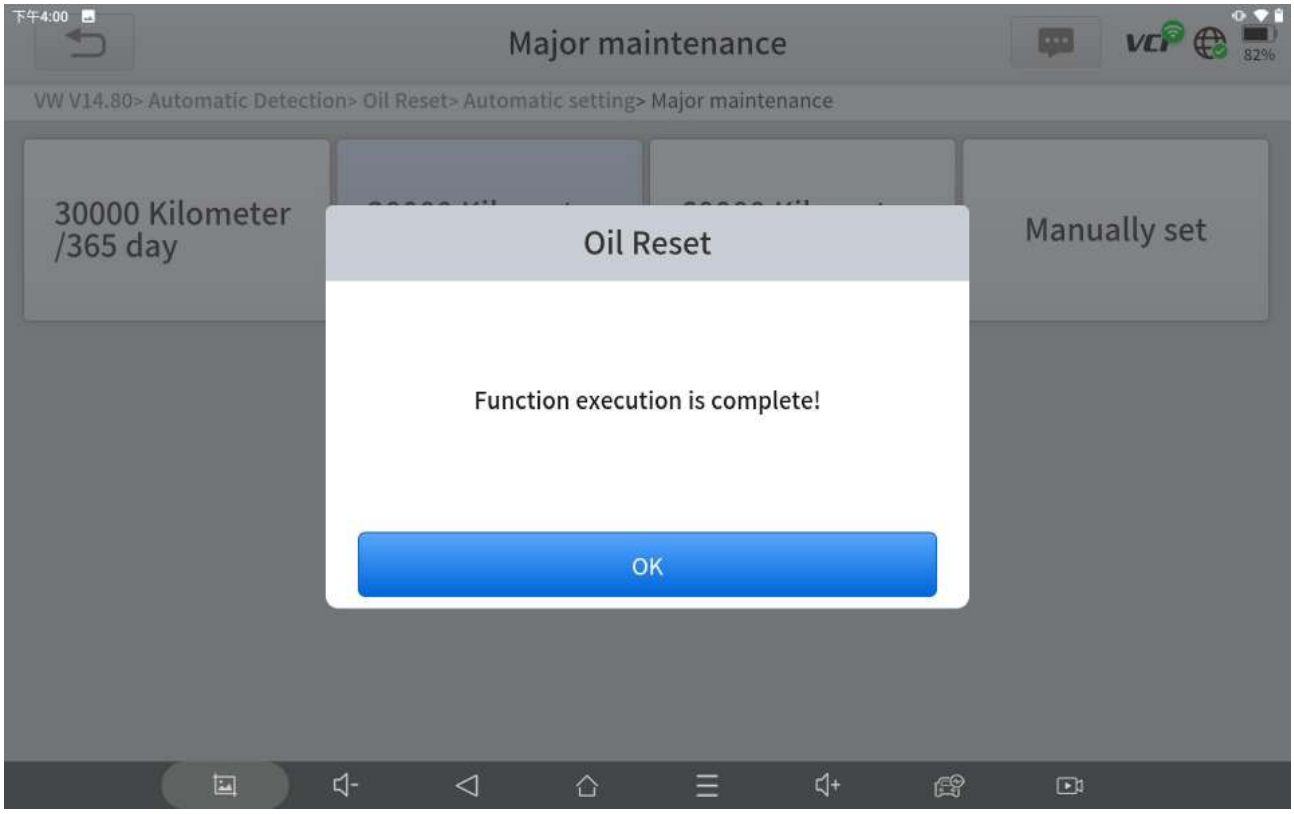
Step 3: Enter automatic setting menu.



Step 4: Confirm the [New value] you just entered, and then click "OK" at the bottom right to complete the procedure.



Step 5: Message of "Write successfully" displays when Oil Reset function has been successfully performed.



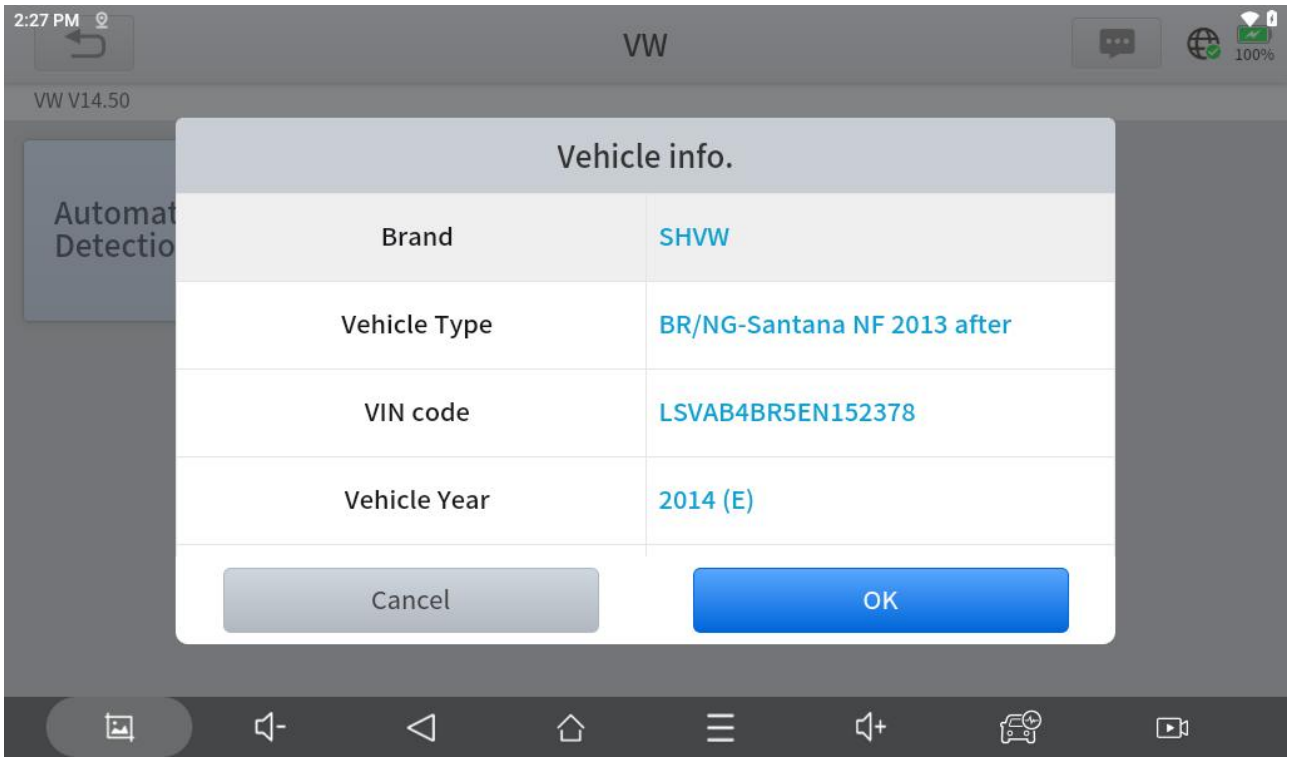
6.2 ABS Bleeding

Anti-Lock Braking System keeps the tires from locking up immediately when there are brakes. Keeping ABS in good condition can give full play to the effectiveness of the brakes, shorten the braking time and distance, prevent the vehicle from skidding and tailing during emergency braking, ensure good driving stability and steering maneuverability, and avoid violent friction between the tires and the ground to reduce tire wear. When the ABS contains air, the ABS bleeding function must be performed to bleed the brake system to restore ABS brake sensitivity. ABS Bleeding can be performed in the following cases:

- Replace the rear brake distributor pump or the front brake distributor pump.
- Severe brake fluid shortage
- Change the brake fluid

The operation guidelines of the ABS Bleeding function are shown as below:

Step 1: Enter the DPF menu and choose relevant models according to the vehicle being tested.



Step 2: Follow the prompt steps and complete the function.

Caution!

● The ABS pump screw needs to be unscrewed

● Brake fluid will be under pressure during this process. Secure the bleed hose and open bleeder screws slowly

● Some vehicles do not support automatic bleeding, but manually bleeding

6.3 BMS Reset

The Battery Management System (BMS) allows the Diagnostic Tool to evaluate the battery charge state, monitor the close-circuit current, register the battery replacement and activate the rest state of the vehicle.

This function enables you to perform a resetting operation on the monitoring unit of the vehicle battery, in which the original low battery fault information will be cleared and battery matching will be performed.

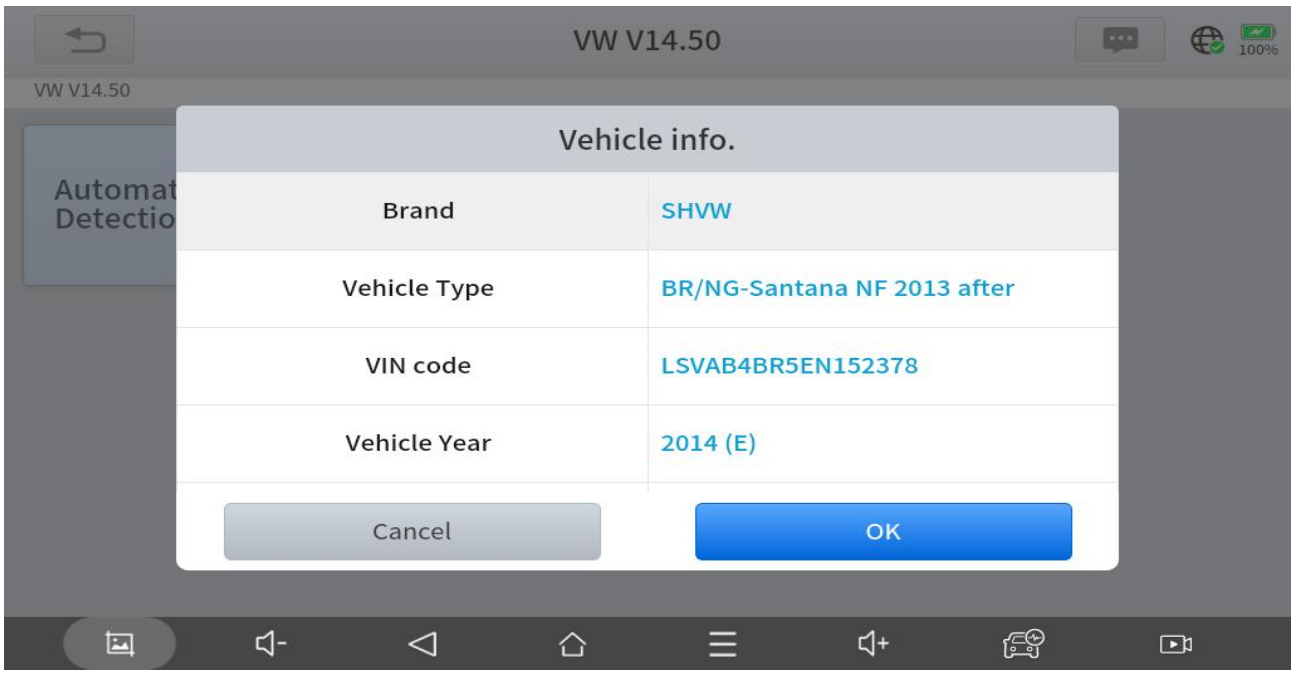
Battery matching must be performed in the following cases:

● The main battery is replaced. Battery matching must be performed to clear original low battery information and prevent the related control module from detecting false information. If the related control module detects false information, it will invalidate some electric auxiliary functions, such as automatic start & stop function, sunroof without one-key trigger function or power window without automatic function.

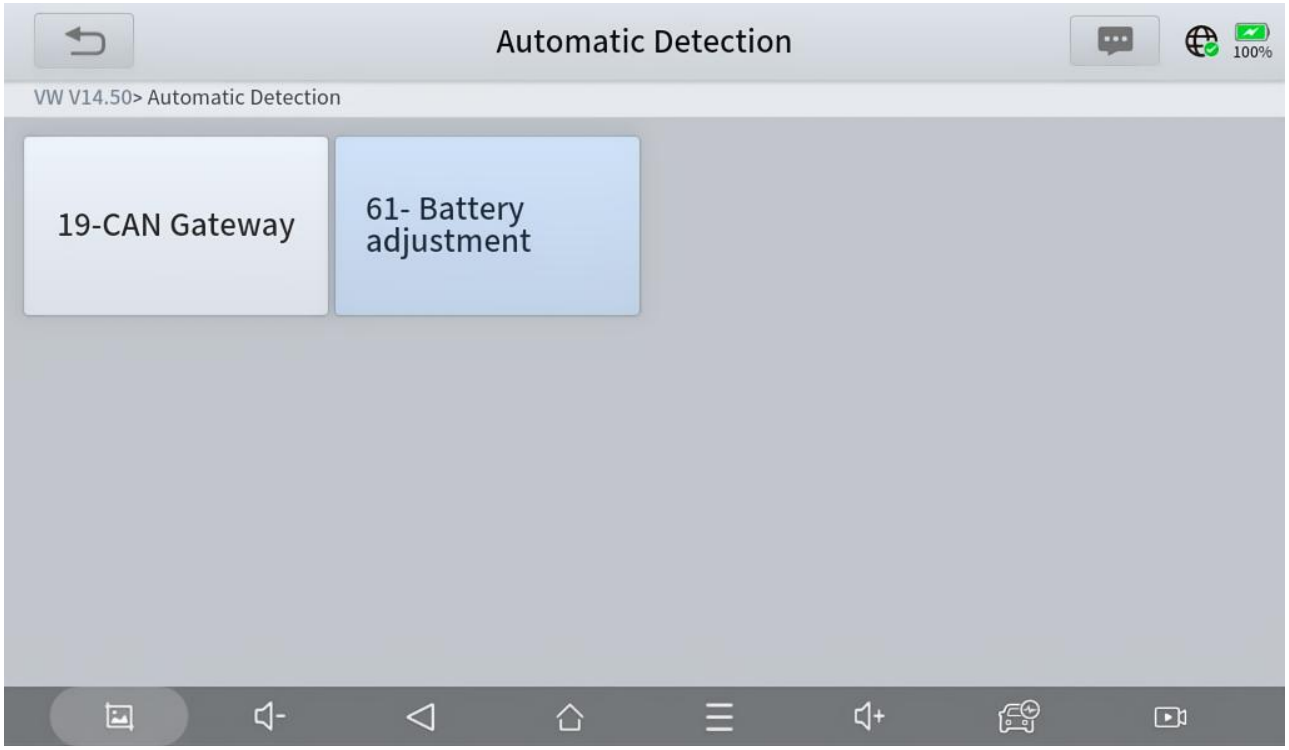
● Battery matching is performed to re-match the control module and motoring sensor to detect battery power usage more accurately, which can avoid an error message displayed on the instrument cluster.

The operation guidelines of the BMS Reset function are shown as below:

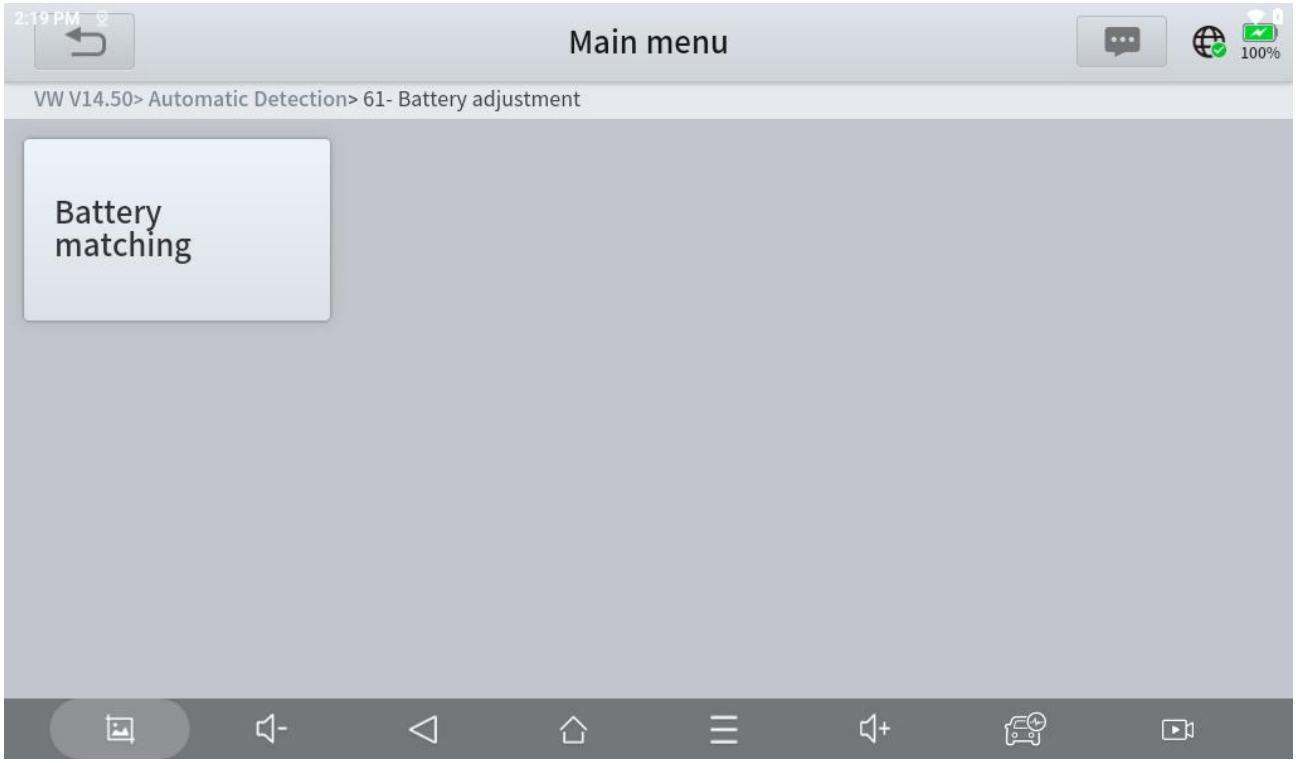
Step 1: Enter the BMS Reset menu and choose relevant models according to the vehicle being tested.



Step 2: Enter the battery manufacturer.



Step 3: Click the "Battery Matching" icon.



6.4 TPMS Reset

The tire pressure monitoring system (TPMS) is an active safety device. It can issue an immediate alarm when tire danger are monitored, prompting the driver to take appropriate measures, thereby preventing the occurrence of serious accidents. The tire pressure monitoring system, along with automotive airbags and the anti - lock braking system (ABS), is listed as one of the essential safety configurations for vehicles.

This function allows to perform the learning, matching and resetting functions of the tire pressure sensor.

The TPMS Reset may be performed in the following cases:

- Tire replacement
- After troubleshooting tire pressure related problems
- Other causes of loss of signal from the tire pressure sensor

Note:

Tire pressure standard is usually displayed in these places:

- Vehicle owner's manual

- Label next to the driver's door (near the B-pillar)
- Drawer next to the driver's seat of the vehicle
- Fuel tank cap

This Scan Tool is not a replacement for the TPMS activation tool, and it only provide TPMS Reset/Relearn function but activation of TPMS sensors. If you need a professional TPMS activation tool, please consult your local dealer.

6.5 Injector Coding

This function can write the identification code of the fuel injector into the ECU so that the ECU can recognize the new injector.

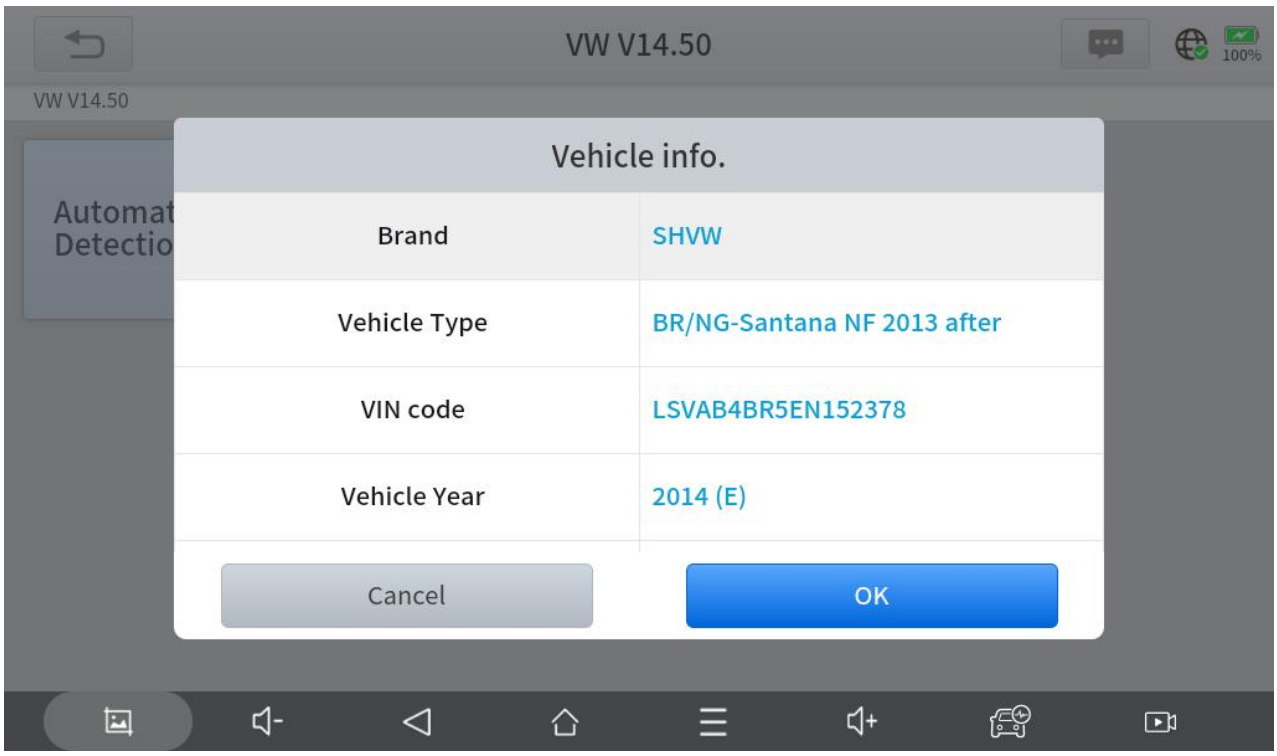
After the ECU or injector is replaced, the injector code of each cylinder must be confirmed or re-coded so that the cylinder can better identify injectors to accurately control fuel injection.

In general cases, there is no need to perform the coding matching function after cleaning;

The identification of the fuel injector includes its working accuracy value and type value. When replacing an injector you need to find the corresponding model for replacement; At present, mainstream cars support injector coding functions

The operation guidelines of the Injector Coding function are shown as below:

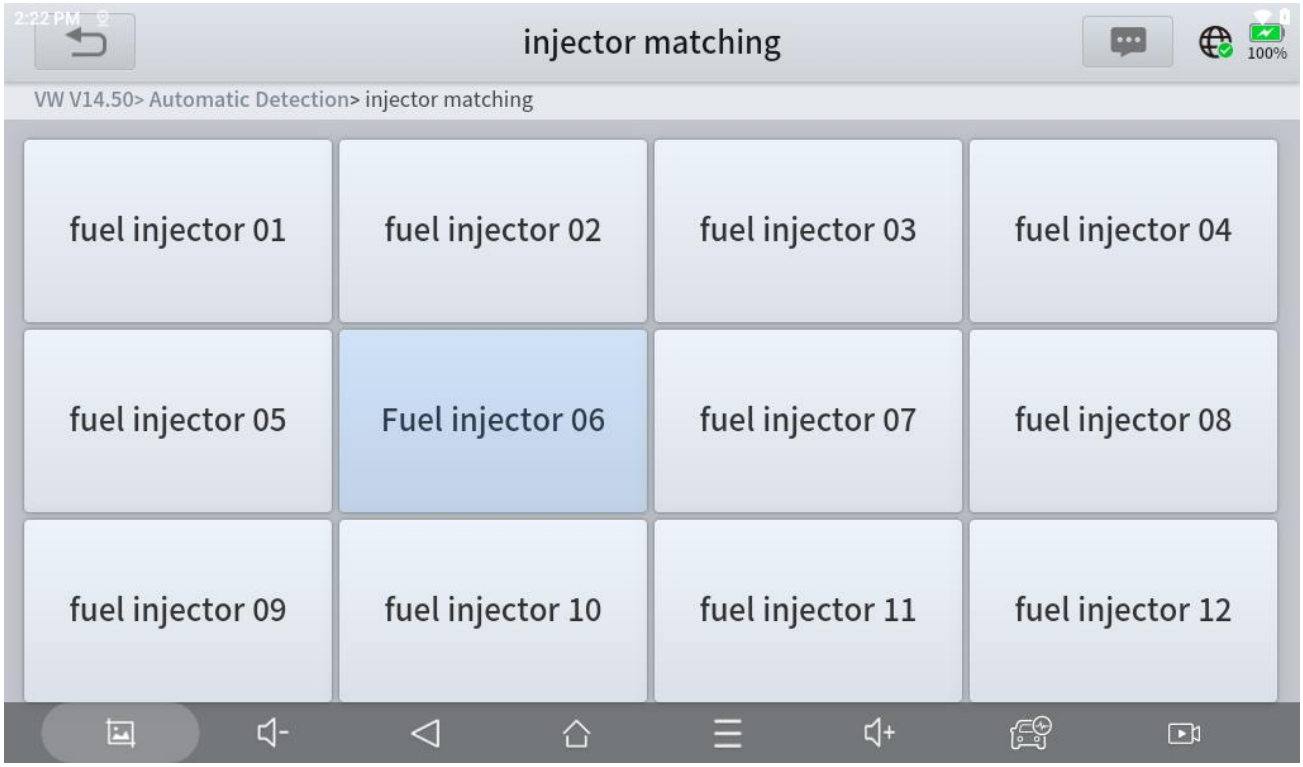
Step 1: Enter the Injector coding menu and choose relevant chassis models according to the vehicle being tested.



Step 2: Click "injector matching" icon.



Step 3: Select the option that matches your vehicle.



Wait until the message "Write successfully" pops up means that you have done.

6.6 EPB

1. If the brake pad wears the brake pad sense line, the brake pad sense line will send a signal to the onboard computer asking for replacing the brake pad. After replacing the brake pad, you must reset the brake pad to clear the trouble code.

Otherwise, vehicle will continue to falsely notify the driver that the brake pads are in need of replacement.

2. A reset must be performed in the following cases:

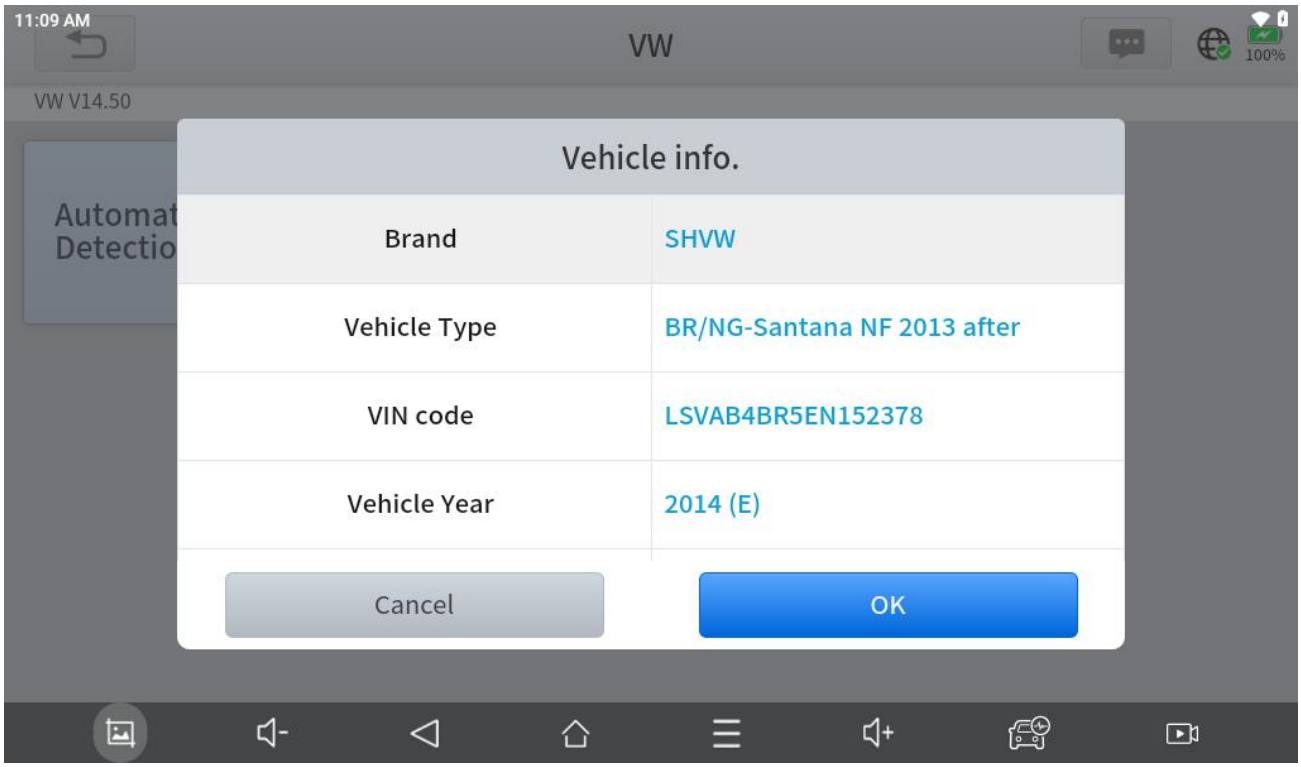
- The brake pad and brake pad wear sensor are replaced.
- The brake pad indicator lamp is on.
- The brake pad sensor circuit is shorted.
- The servo motor is replaced.

The operation guidelines of the EPB function are shown as below:

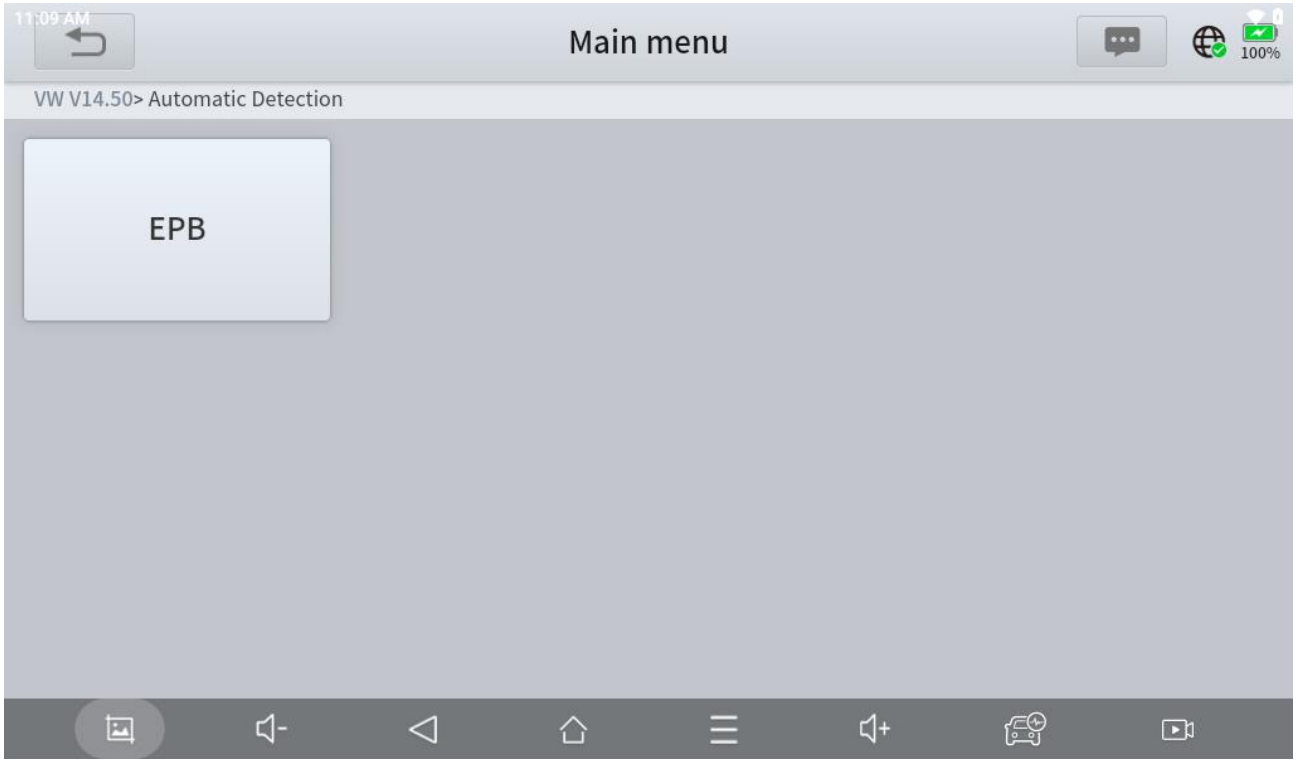
Step 1: Enter the EPB menu and choose relevant models according to the vehicle being tested.



Step 2: Ensure your vehicle type.



Step 3: Enter the Enter maintenance mode menu and release the handbrake brake.



Step 4: Wait until the message of "Successful operation" pops up. And press "OK" to exit the menu.

6.7 A/C Relearn

AC system relearn must be performed when the vehicle AC ECU or actuator is replaced or the ECU memory is lost.

6.8 Throttle Adaptation

Also called Throttle Reset or Throttle Match. This function enables you to reset the throttle actuators and the learned values stored on ECU to the default state. Doing so can accurately control the actions of regulating throttle (or idle engine) to adjust the amount of air intake.

6.9 EPS Adaptation

EPS Adaptation permanently stores the current steering wheel position as the straight-ahead position in the SAS EEPROM. Therefore, the front wheels and the steering wheel must be set exactly to the straight-ahead position before calibration. In addition, the VIN is also read from the instrument cluster and stored permanently

in the SAS EEPROM. On successful completion of calibration, the SAS fault codes will be automatically cleared.

To reset the steering angle, you need to first find the relative zero point position for the vehicle to drive in a straight line. Taking this position as a reference, the ECU can calculate the accurate angle for left and right steering.

After replacing the steering angle position sensor, replacing steering mechanical parts (such as steering gearbox, steering column, end tie rod, steering knuckle), performing four-wheel alignment, or repairing the car body, you must reset the steering angle.

6.10 Airbag Reset

This function is used to reset the airbag system, airbag warning light when airbag has been replaced and clear crash data.

NOTE:

Clear crash data is available to specific vehicles only.

6.11 Water Pump Actuation

Also called Electric Water Pump Activation. This function is used to activate the electric water pump after it's replaced.

6.12 DPF Regen

The Diesel Particle Filter (DPF) function manages DPF regeneration, DPF component replacement teach-in, and DPF teach-in after replacing the ECM.

The ECM monitors driving style and selects a suitable time to employ regeneration. Vehicles driven a lot at idling speed and low load will attempt to regenerate earlier than vehicles driven more with higher load and speed. For regeneration to take place, a prolonged high exhaust temperature must be obtained.

In the event of the car being driven in such ways that regeneration is not possible, i.e., frequent short journeys, a diagnostic trouble code will eventually be registered in addition to the DPF light and "Check Engine" indicators displaying. A service regeneration can be requested in the workshop using the Diagnostic Tool.

DPF regeneration is used to clear PM (Particulate Matter) from the DPF filter through continuous combustion oxidation mode (such as high-temperature heating combustion, fuel additive or catalyst reduce PM ignition combustion) to stabilize the filter performance.

DPF regeneration may be performed in the following cases:

- The exhaust back pressure sensor is replaced.
- The PM trap is removed or replaced.
- The fuel additive nozzle is removed or replaced.
- The catalytic oxidizer is removed or replaced.
- The DPF regeneration MIL is on and maintenance is performed.
- The DPF regeneration control module is replaced.

6.13 Power Balance

This function is to shut down individual injector and monitor the power output drop by RPM to determine the relative power contributed by each cylinder and decide which cylinder malfunctions.

6.14 CPS Reset

This function enables you to perform tooth learning for the vehicle, to turn off the MIL.

It needs to be performed in the following cases:

1. After the engine ECU, crankshaft position sensor, or crankshaft flywheel is replaced.
2. The DTC "tooth not learned" is present.

6.15 Gearbox Adaptation

This function can complete the self-learning of the gearbox and improve the shift quality, when the gearbox is disassembled or repaired which may cause shifting delay or impact.

6.16 Tire Size Reset

This function is to reset the tire size when it's replaced or upgraded.

6.17 Suspension Adaptation

This function can adjust the vehicle body height sensor for level calibration after replacing the vehicle height sensor or control module in the air suspension system, or when the vehicle level is not correct.

6.18 IMMO

The IMMO function refers to a specialized feature used to reset or reprogram the Immobilizer System (IMMO) in vehicles. The immobilizer is an anti-theft security system that prevents the engine from starting unless the correct key or transponder is detected.

Mainly used to do key matching, the main functions are key matching, key information reset, key adding. (In most of the models above the matching key without additional accessories, only a small part of the need, such as Toyota, Nissan, Mercedes-Benz, Land Rover, Jaguar and some other models).

6.19 ABS/ESP Adaptation

This function is to reset the acceleration sensor when it's replaced or it's providing wrong data which is used for ABS/ESP system, anti-theft system or navigation system.

6.20 Clutch Adaption

This function is to reset the clutch after the replacement of clutch or gear shifting motor.

6.21 Control Unit Reset

This function is to reset the ECU software when fault occurs due to abnormal working temperature or voltage change.

6.22 ADAS

ADAS stands for Advanced Driver Assistance System, which involves making active judgments and taking preventive measures before the driver's subjective reaction to prevent and assist in emergency situations. After replacing modules and sensors in the ADAS system, it is essential to recalibrate the ADAS system using the special function of the diagnostic instrument.

6.23 Speed Limit

This function is to remove speed limit for imported vehicle, vehicle for government agencies or police.

6.24 HV Battery

This function is used to check the voltage of individual battery pack.

6.25 Rain/Light Sensor

This function is to reset the rain/light sensor after the replacement of the rain/light sensor or the front windshield.

6.26 Seat Calibration

Or called Seat Configurations. This function is applied to match or configure the seats with memory function that are replaced and repaired.

6.27 Transport Mode

During shipment from the factory, a vehicle is put in a partially activate state called Transport Mode to reduce the drain on the battery. And when it arrives at the dealership, this function is applied to deactivate or disable the Transport Mode.

6.28 Stop/Start Reset

This function is used to open or close the automatic Start/Stop function via setting the hidden function in ECU (The precondition is vehicle equipped with hidden function and hardware is in place).

6.29 EGR Relearn

Also called EGR Adaption. This function is used to learn the EGR (Exhaust Gas Re-Circulation) valve after it is cleaned or replaced.

6.30 Turbo Relearn

Also called VGT Turbo Calibration. This function is used to calibrate the newly installed component. This needs to be done every time there's an initial installation or swap of the VGT. This is always done when the component has been detected as operating "out of range".

6.31 Instrument Cluster

Instrument repair involves using diagnostic equipment to adjust the mileage displayed on the instrument cluster. This can include two main procedures:

Step 1: Replacement of the Instrument: When an instrument cluster is replaced, the original mileage needs to be written to maintain accuracy and legality.

Step 2: Adjustment of the Mileage: This allows the mileage to be adjusted either up or down, which is sometimes referred to in the used car market as "adjusting the meter." When purchasing a used car, it's important to check whether the mileage has been altered or adjusted, as this can affect the vehicle's value and reliability.

6.32 FRM Reset

This function is to reset the Footwell Room Module when unstable voltage triggered fault and the doors, windows, headlight malfunctions.

6.33 Headlight

Also called Headlight Adjustment, Headlight Matching or AFS Reset. This function can initialize the adaptive headlight system. The headlight system can decide whether to automatically turn on the headlights based on the ambient light intensity, monitor the vehicle's driving speed, body posture, etc., and adjust the headlight lighting angle.

6.34 Language Change

This function is to change the system language of the instrument cluster or control console.

6.35 Windows Initialization

When the vehicle battery is disconnected, the windows may not work right. This function is used to perform door window matching to recover the ECU initial memory, and recover the automatic ascending and descending function of power window.

6.36 ECU Configuration

This function allows the diagnostic instrument to query hidden functions of the vehicle that can be accessed and activated. Common hidden functions include passive tire pressure monitoring, one-key car search, automatic locking, speeding reminder, seat belt reminder function, and more.

6.37 EEPROM

This function works together with EEPROM adapter which is not included in this package to read and write data into EEPROM. This function is used in Key Programming or Instrument Cluster function for some vehicle models.

6.38 AFR Adaptation

This function is to reset or relearn the air/fuel ratio parameters.

6.39 GPF Regen

GPF Regen refers to the regeneration process of the Gasoline Particulate Filter (GPF), which is designed to trap and burn off soot and particulate matter (PM) emitted by gasoline engines—particularly those with direct injection (GDI) or turbocharging.

6.40 Cam Sensor Adaptation

It refers to the process of calibrating the engine control unit (ECU) to match the actual camshaft position with the expected position. This is crucial for ensuring proper engine timing, as the camshaft dictates when the valves open and close, which directly affects fuel injection and ignition.

6.41 Sunroof Initialization

When the vehicle battery is disconnected, the windows may not work right. This function is used to perform sunroof matching to recover the ECU initial memory, and recover the automatic ascending and descending function of power window.

6.42 TCM Service Reset

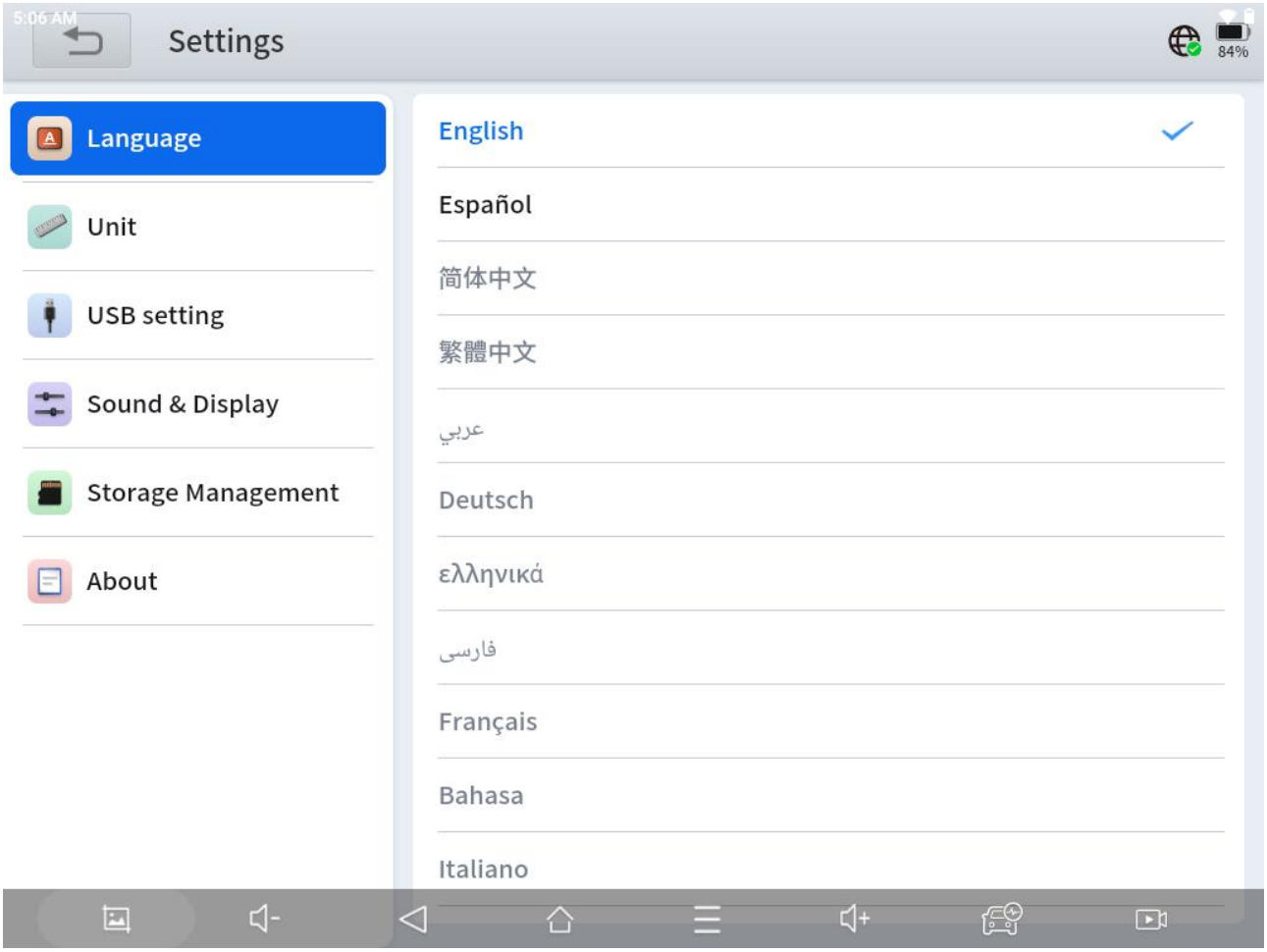
After changing the transmission fluid or performing transmission maintenance, reset the fluid counter or maintenance reminder in the transmission control module (TCM) to ensure the normal operation of the transmission system and accurate record-keeping. This operation helps vehicle owners and maintenance personnel track the maintenance history of the transmission and perform timely maintenance when necessary.

7. Settings

This chapter covers the settings for the diagnostic software or tablet, including the tablet's language, units used in the diagnostic program, USB port mode configuration, and more.

7.1 Language

Go to "Settings"> "Language" to change the language of the Android tablet into the language you want to use.



To use the diagnostic program in your preferred language, please reach out to our support team and provide the Serial Number (S/N) of your Diagnostic Tool. They will authorize the language software program you desire. Once authorized, you'll need to download all software programs for the new language and set the language of your Android tablet accordingly. This ensures that the diagnostic tool operates effectively in your chosen language.

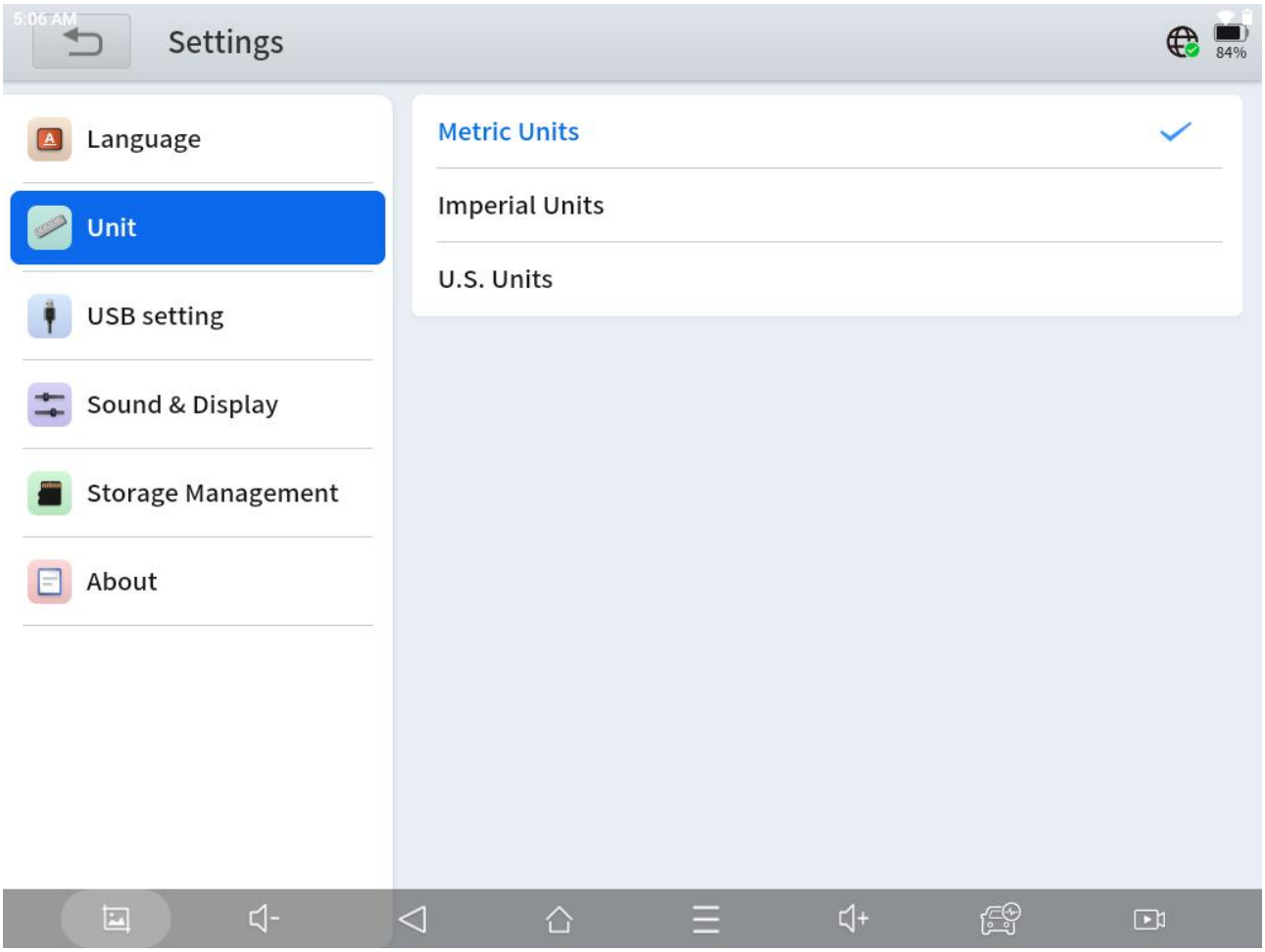
7.2 Unit

This setting provides 3(three) sets of units to measure various sensor values.

Metric Units: Centimeters, kilometers, grams, kilo,℃,litres, pa, kpa

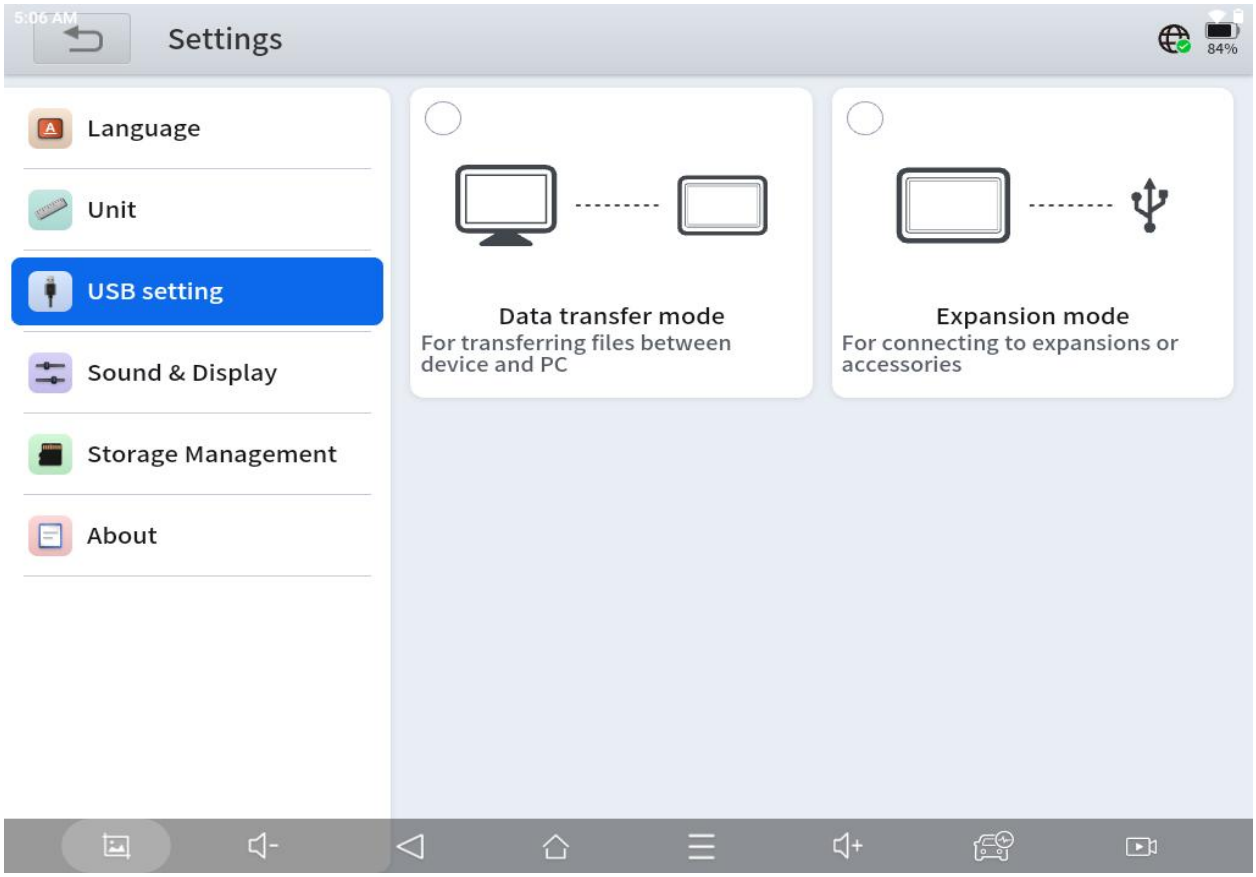
Imperial Units: Inch, foot, yard, oz, lb, ℉,PSI, mile, galon

US Units: Inch, foot, yard, oz, lb, ℉, PSI, mil, mile



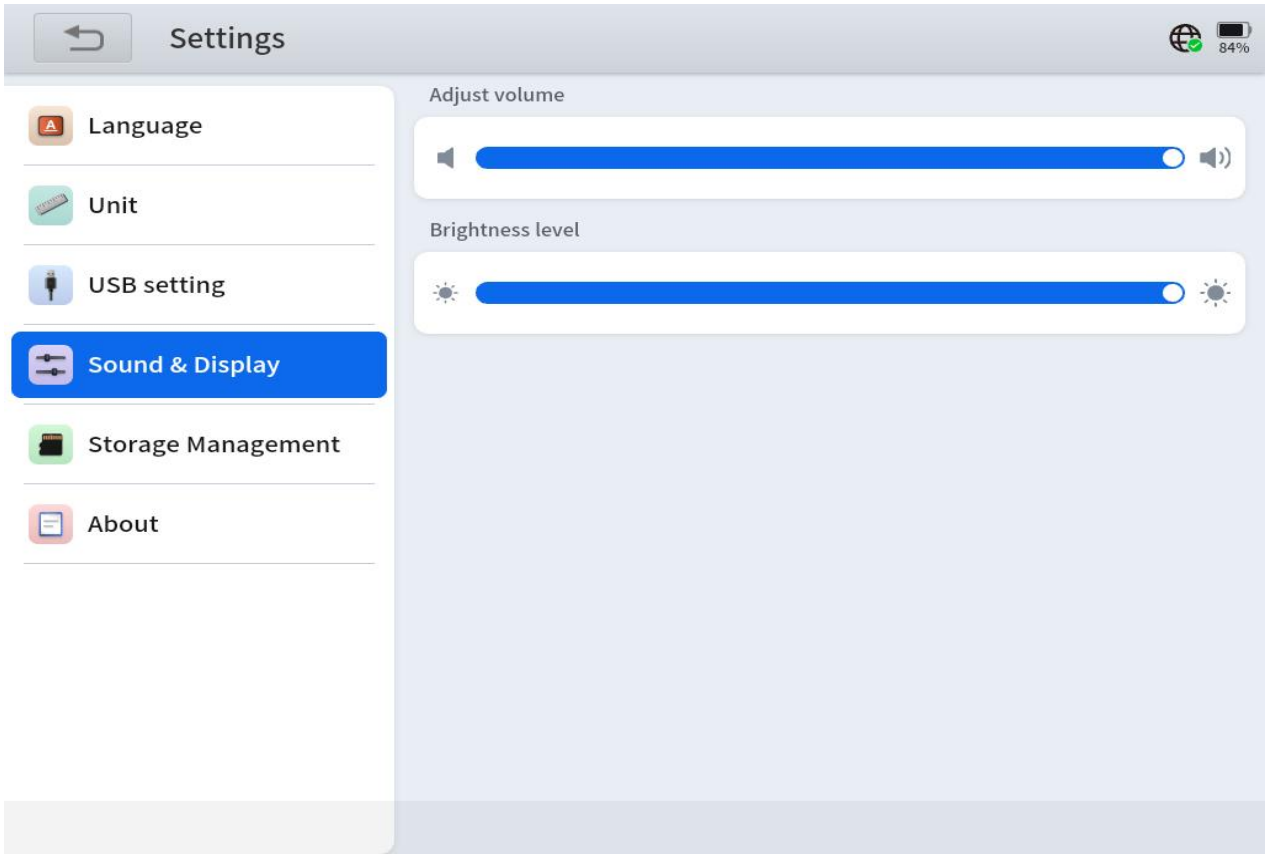
7.3 USB Setting

You can transfer files between device and PC, and you can connect device with accessories.



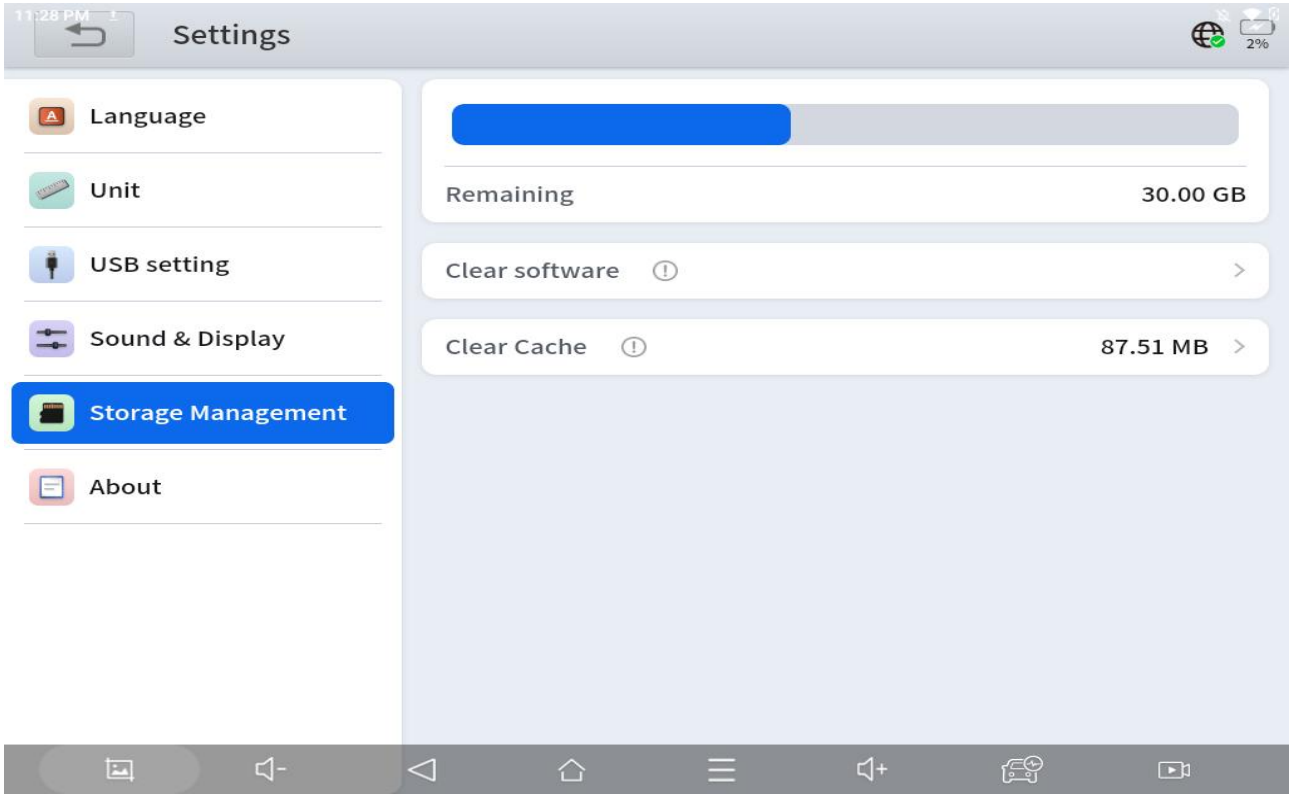
7.4 Sound & Display

You can adjust the volume of sound and the display of the screen.



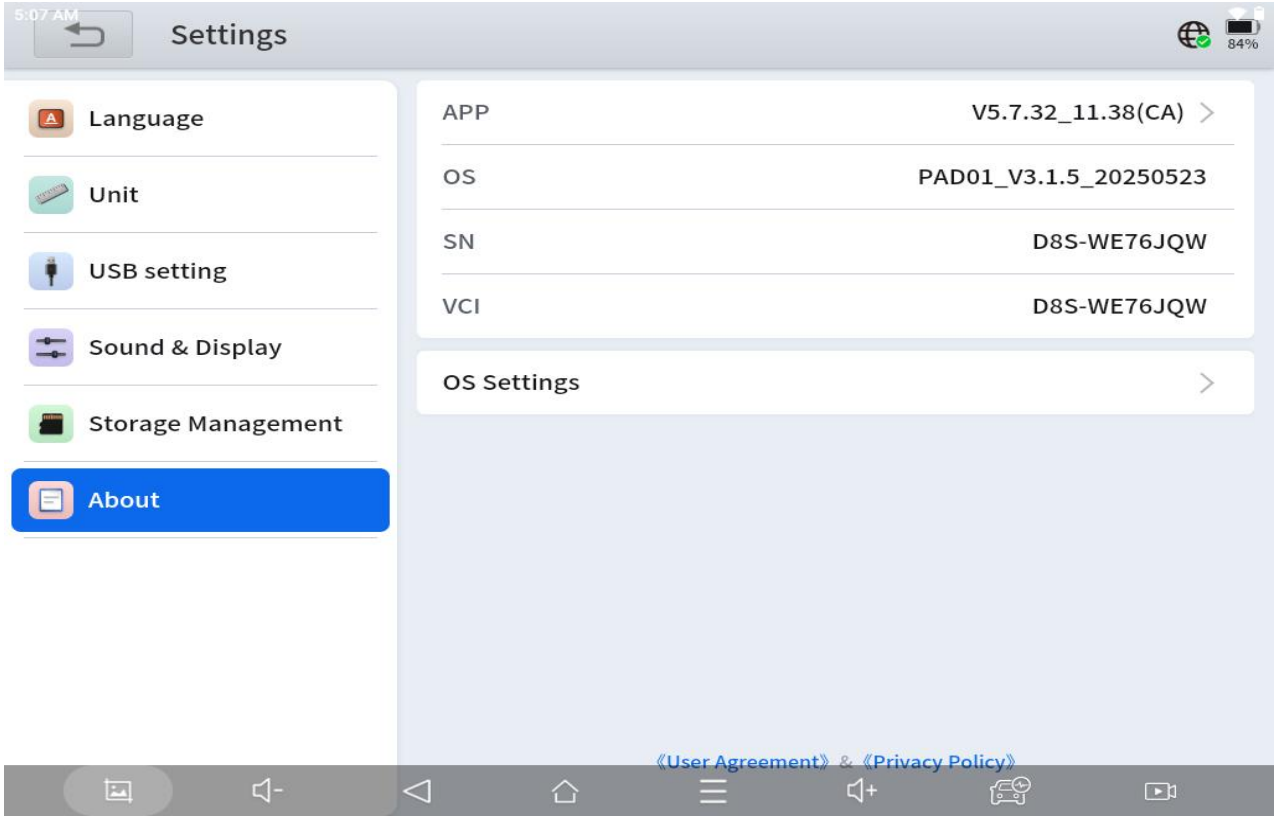
7.5 Storage Management

You can clear the cache and check the remaining memory.



7.6 About

You can check the serial number and APP version here.



8. Software Updates

This chapter details how the software subscription operates and outlines basic procedures for software updates.

- The subscription is an annual fee that covers compatibility with all makes and models, rather than being tied to individual models or functions.
- Upon expiration of the subscription, you have the option to renew it immediately or skip renewal for certain years until you are ready to update again. If you choose not to renew, the existing software programs remain on the Diagnostic Tool but cannot be updated to the latest versions.
- Software updates can be performed while connected to a Wi-Fi network or using a mobile phone's hotspot. Using a mobile phone' hotspot is recommended in case of network provider restrictions or when home Wi-Fi is unavailable.

If "Network abnormal" prompt pops up on the screen, try another Wi-Fi or check the router settings or seek help from our support team via www.xtoolonline.com /support.

To update the software programs, you have 2 (two) options:

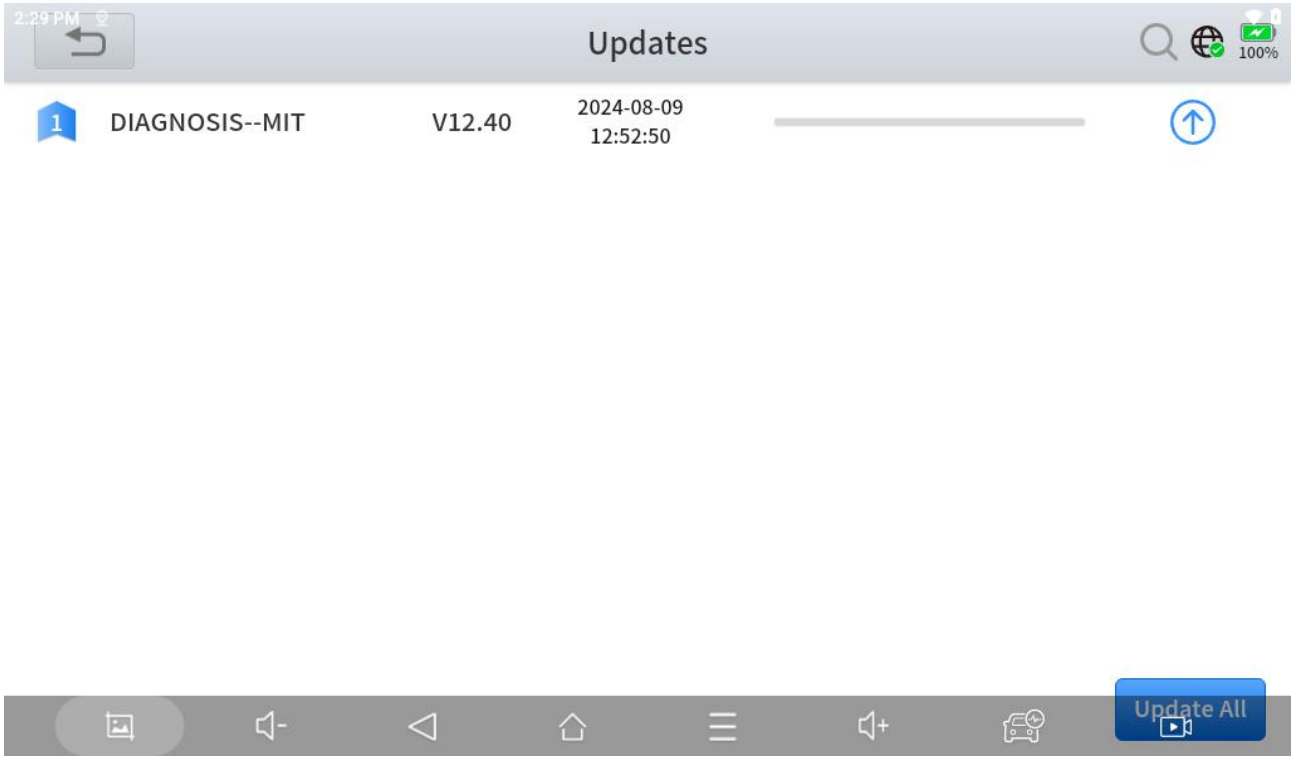
Option 1: Update All Software Programs

Update all by clicking "Update All" at the bottom right of the update menu



Option 2: Update Individual Software Program

Update specific software program by clicking the ""icon at the right side of the corresponding software program. If the update is interrupted, click the "" icon again to proceed.



Delete Software Program:

When the diagnostic tablet has taken up too much memory and become slow, the solution is to delete the software programs you rarely use to free up some space.

Delete diagnostic software program:

To delete rarely used diagnostic software program, click "Diagnostic"- Select Region- Press and hold the vehicle maker icon for 5 seconds that you rarely use to activate the job menu Click "Delete" to delete the software program.

IMPORTANT:

It's advisable not to delete software programs close to the subscription expiration date. Instead, it's recommended to re-download any deleted software programs

before the subscription expires. This ensures that you have access to the necessary software even after the subscription period ends.

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9. More

This chapter describes "More" options on the main diagnostic menu including your user account, workshop information, subscription start and end date, firmware information, endoscope and user manual.

9.1 Profile

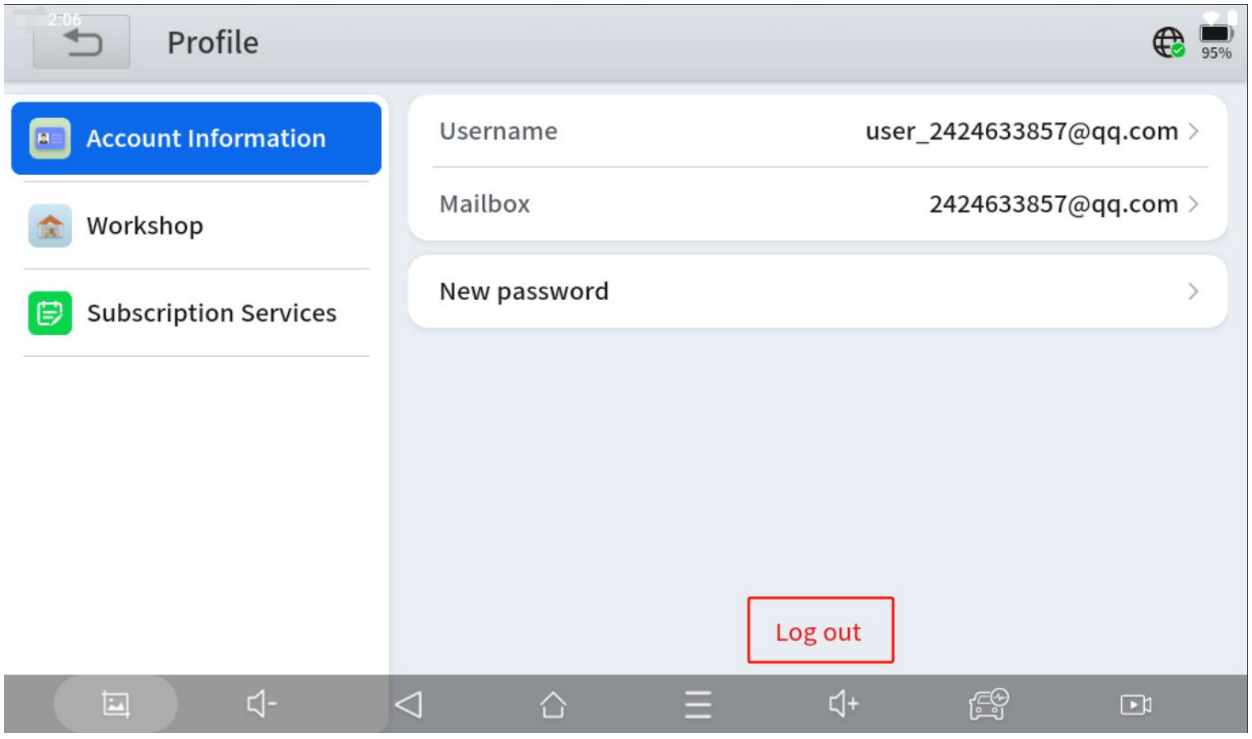
This section enables you to manage the user account, workshop details, and check subscription information effectively:

9.1.1 Account Information

Provides options to set the user name, product registration mailbox, reset password, and log out of the current account to facilitate logging in with another account.

9.1.1.1 Delete Activation Information

If you want to delete the logged-in email information, go to the "Account Information" page: More-Profile-Account Information, and click "Log Out."

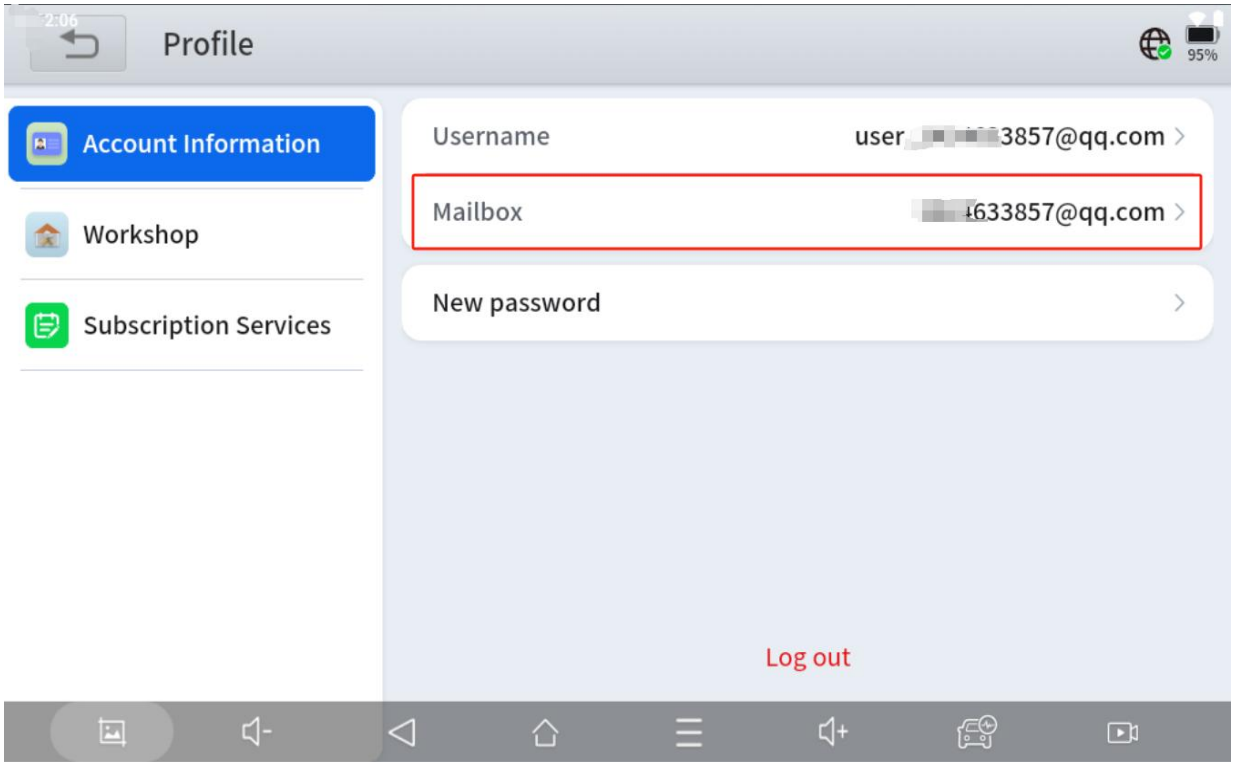


And now, you have delete the activation information.

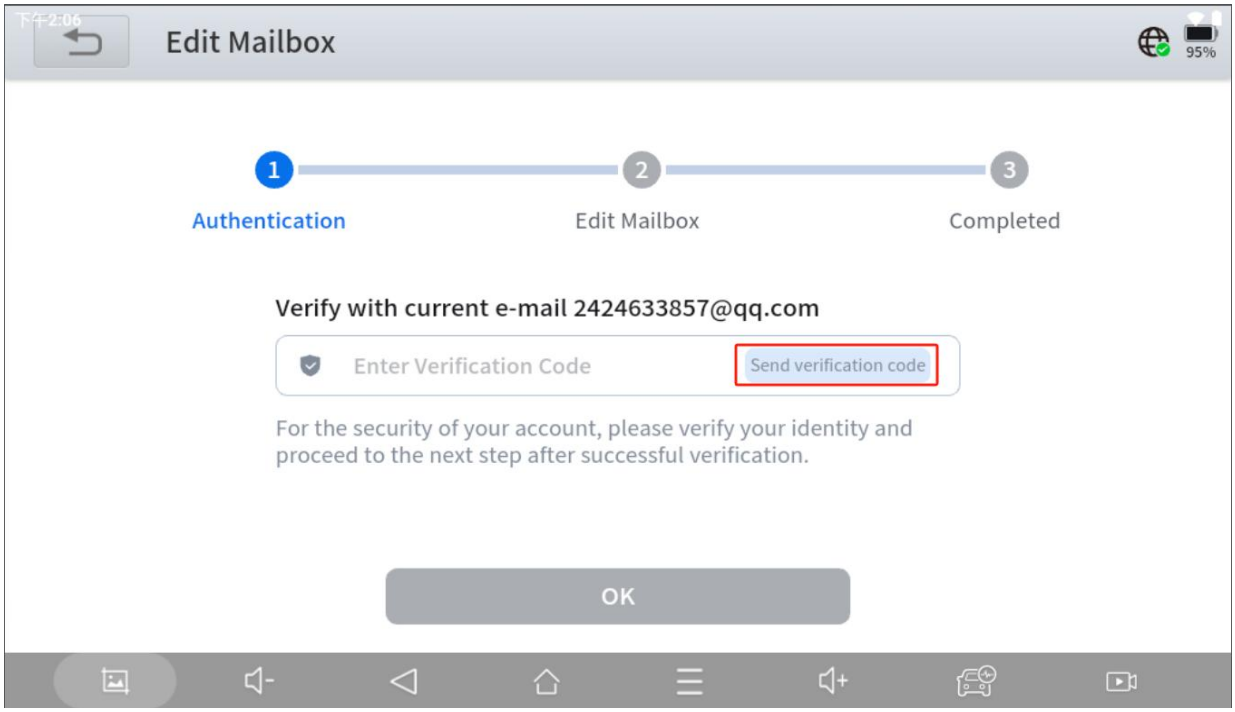
9.1.1.2 Change Bound Email

If you want to change the bound email, here is the steps for your reference:

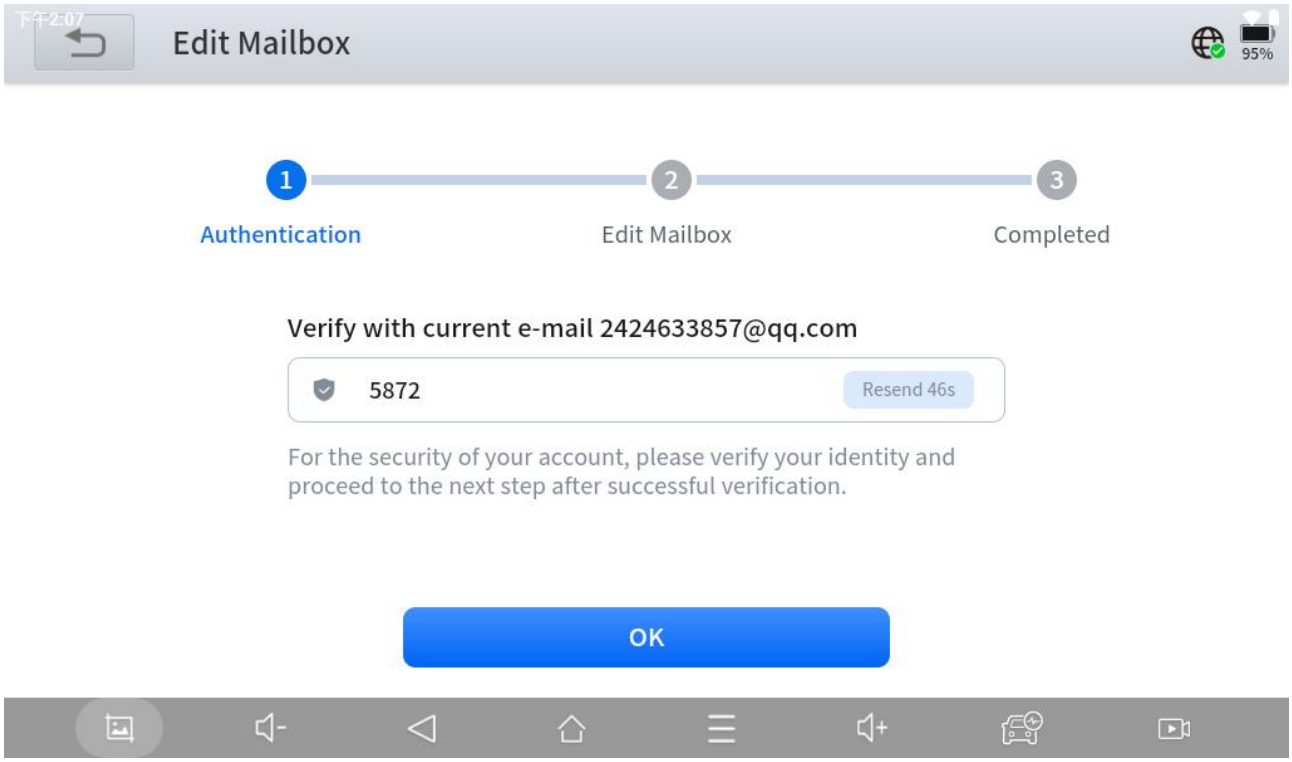
Step 1: Go to Account Information page: "More-Profile-Account Information", click "Mailbox".



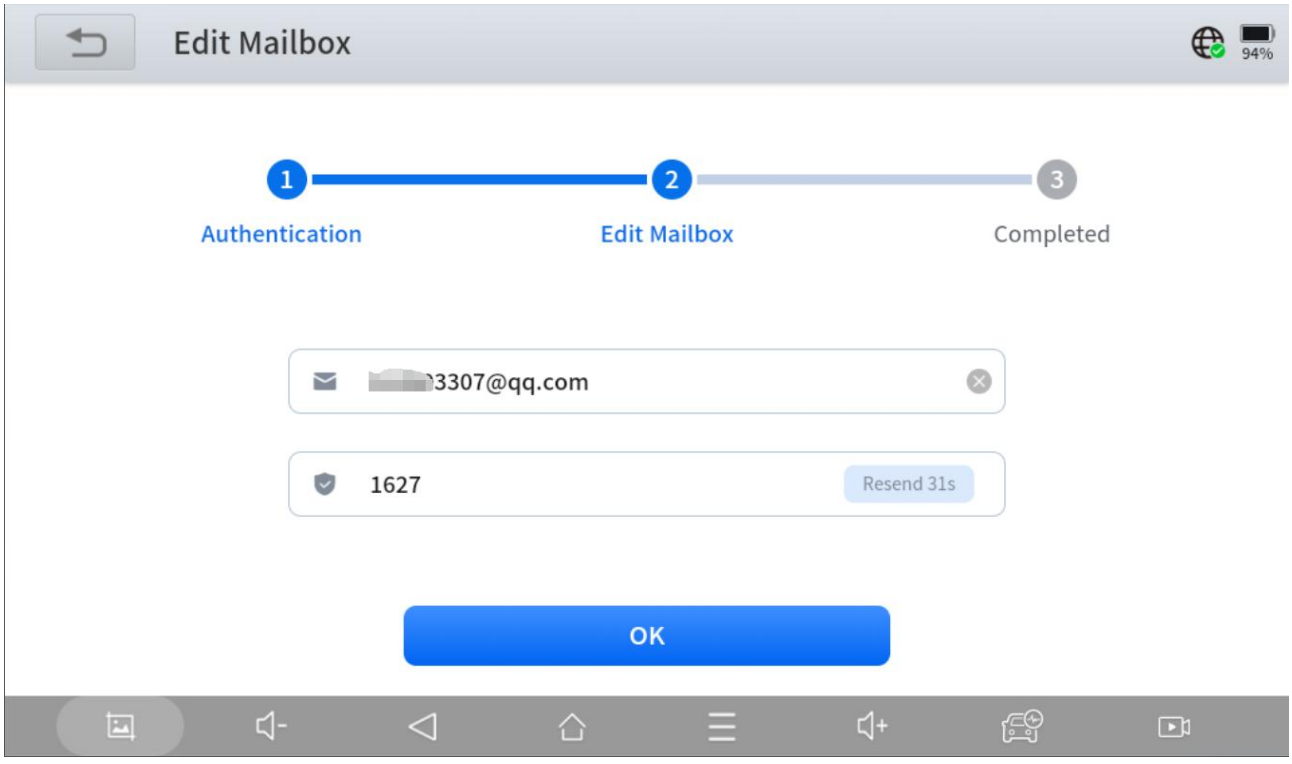
Step 2： Click Send verification code.



Step 3： After clicking "Send verification code," a four-digit verification code will be sent to the email currently logged in on the device. Enter the verification code.



Step 4: Enter the email address you want to change to, click "Send Code," and the new email will receive a four-digit verification code. Enter the verification code, click OK and the email change will be complete.



NOTE:

If you forgot the email address you used for the product activation, please send the S/N (Serial Number) of the Diagnostic Tool to support@xtoolonline.com to recover the registration information.

9.1.2 Workshop

Allows technicians or workshops to configure essential details such as the workshop name, address, phone number, mailbox, and website. These details are typically included in diagnostic reports shared with customers.

9.1.3 Subscription Services

Displays crucial information such as the Serial Number (S/N) of the Diagnostic Tool, the start date, and the expiration date of the subscription. This allows technicians to plan and prepare accordingly, ensuring all software programs are updated to the latest versions before the subscription expires.

9.2 VCI Management

Here, you can view the VCI information, such as the VCI serial number or the VCI firmware version. You can also upgrade the VCI firmware version.

9.3 Endoscope

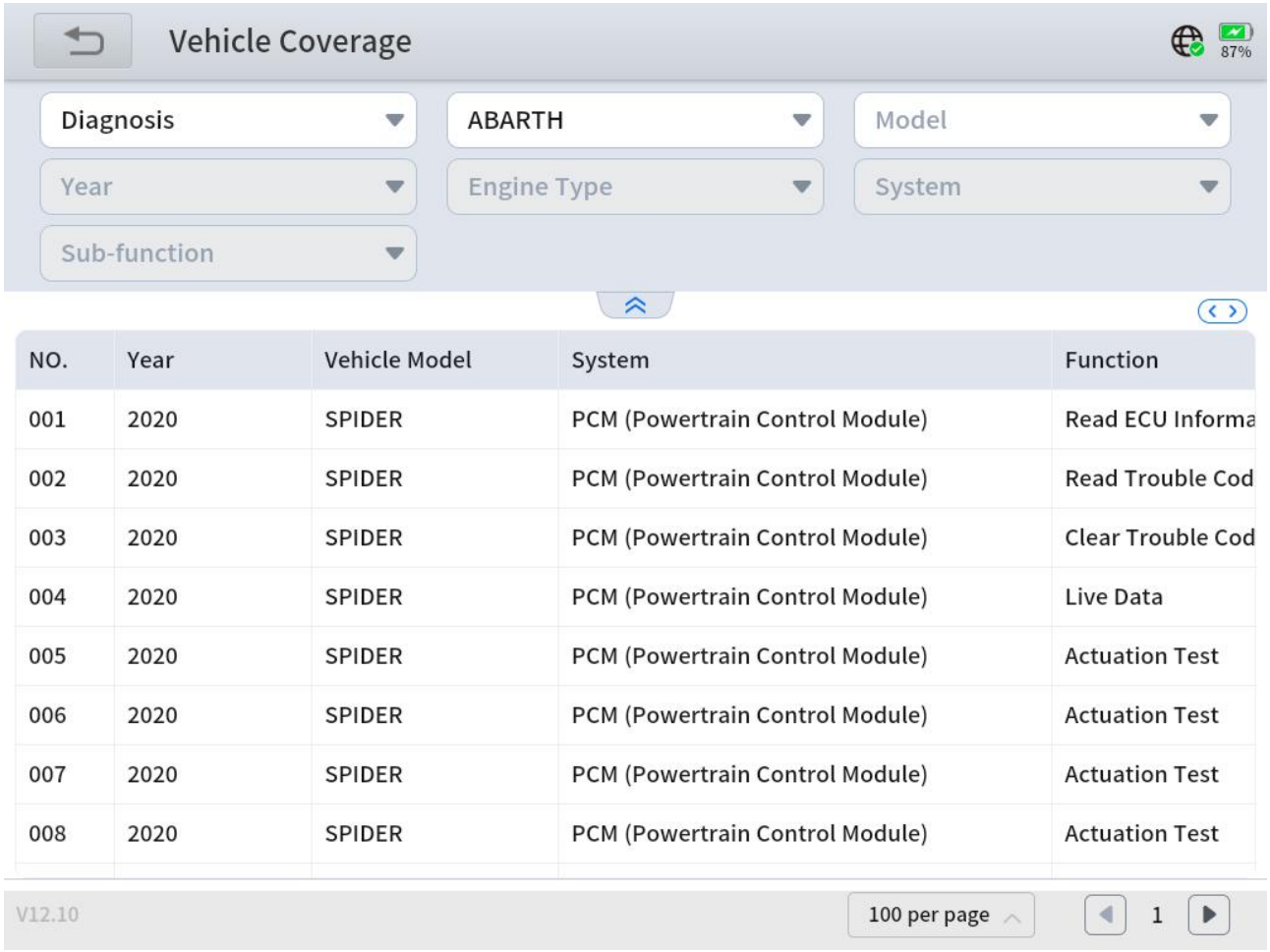
This function is used with the endoscope. When certain narrow areas on the vehicle are difficult to observe or reach, the endoscope can be extended to the desired location. By activating the endoscope function under "More - Endoscope," the device screen will clearly display that area.

9.4 User Manual

We plan to regularly update and improve the user manual to enhance customer service. Physical copies of manuals often become outdated quickly. Additionally, the digital PDF version of the User Manual includes a search function, enabling users to locate specific information within the extensive content. This section aims to ensure that the User Manual receives periodic updates for accuracy and relevance.

9.5 Vehicle Coverage

This device allows you to directly check whether the desired function is supported, without needing to access the XTOOL website on a computer or select a specific device. Simply input the detailed information about the function and vehicle model you want to query into the device, and it will automatically display all the functions supported by this device. The more detailed the information you provide, the more accurate the results will be. This way, you can more easily and quickly understand the range of functions that the device can perform, without the need for additional, cumbersome searches or device selections.



Full Screen Display

Click “ ”to display in full screen.



Click again to return to the split-screen view.

The Number of Information Items Displayed Per Page

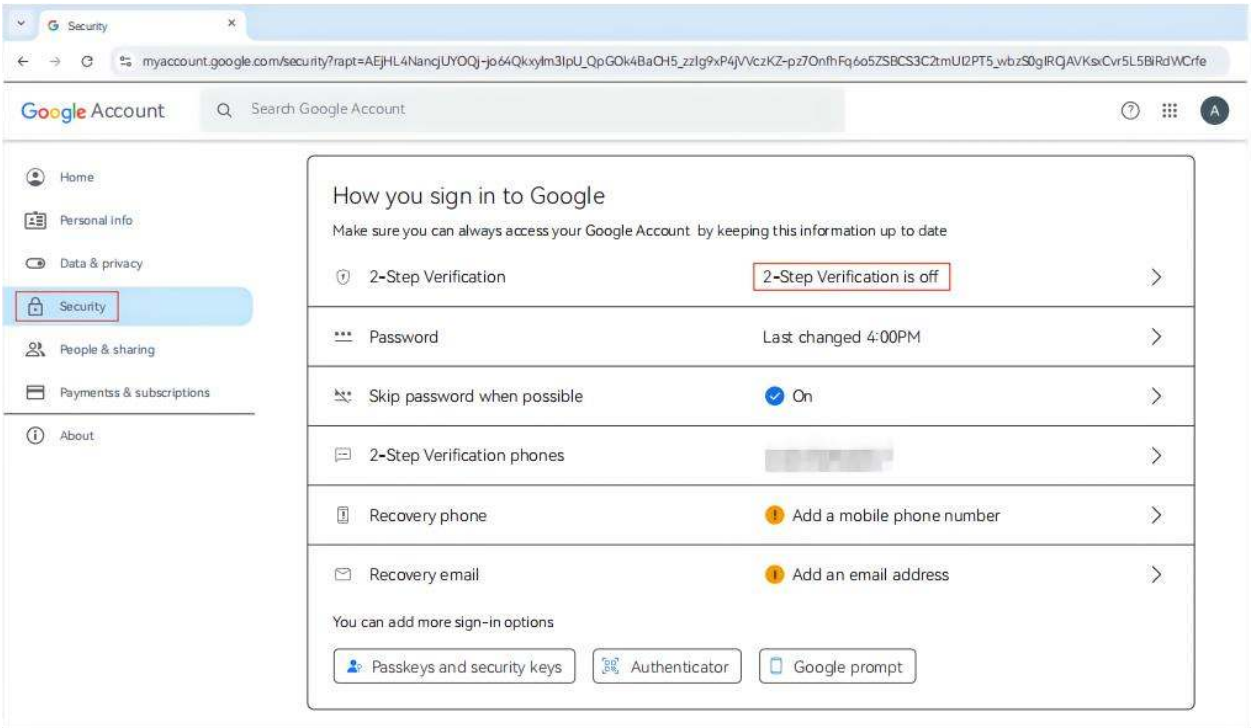


When you select 100 per page, each page will display 100 query results; when you select 20 per page, each page will display 20 query results.

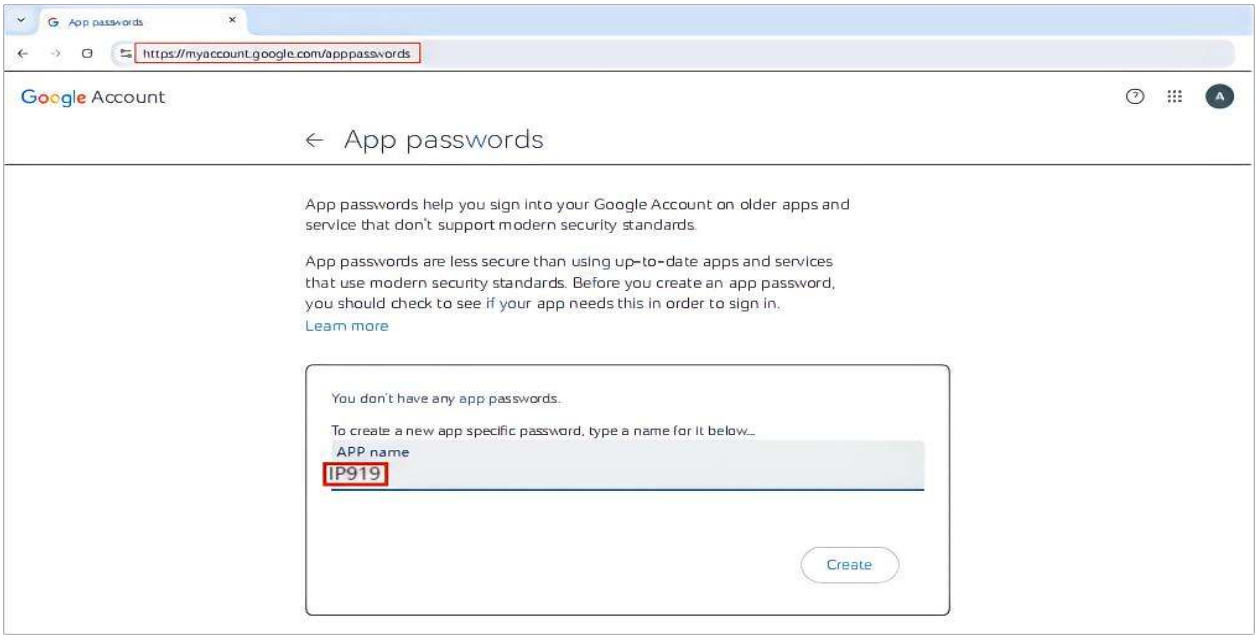
10. Others

10.1 Email Settings

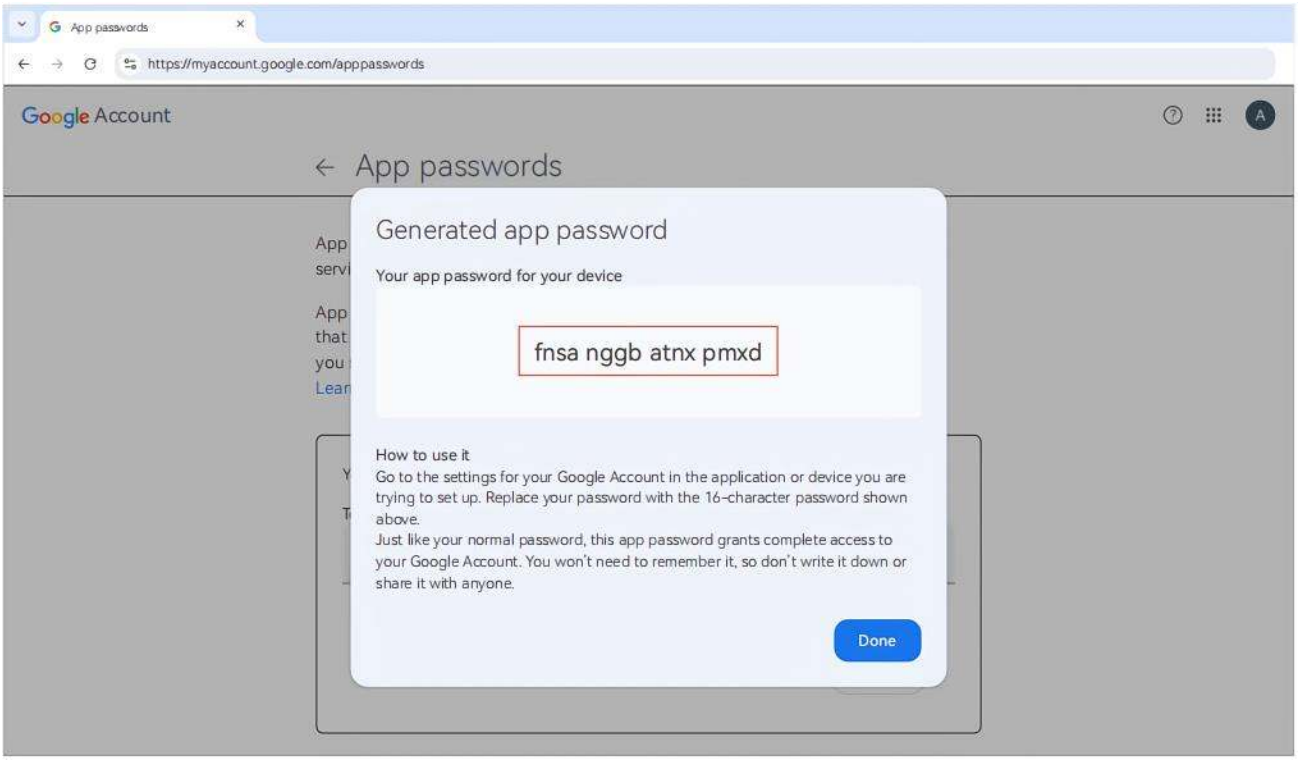
Step 1: Log into your Google Account and click "Security"> "2-Step Verification"> Click "Get Started" to set up 2-Step Verification> Set up a backup phone and turn on 2-Step Verification.



Step 2: When the 2-Step Verification is turned on, visit the link below to set up App password. https://myaccount.google.com/ app passwords.



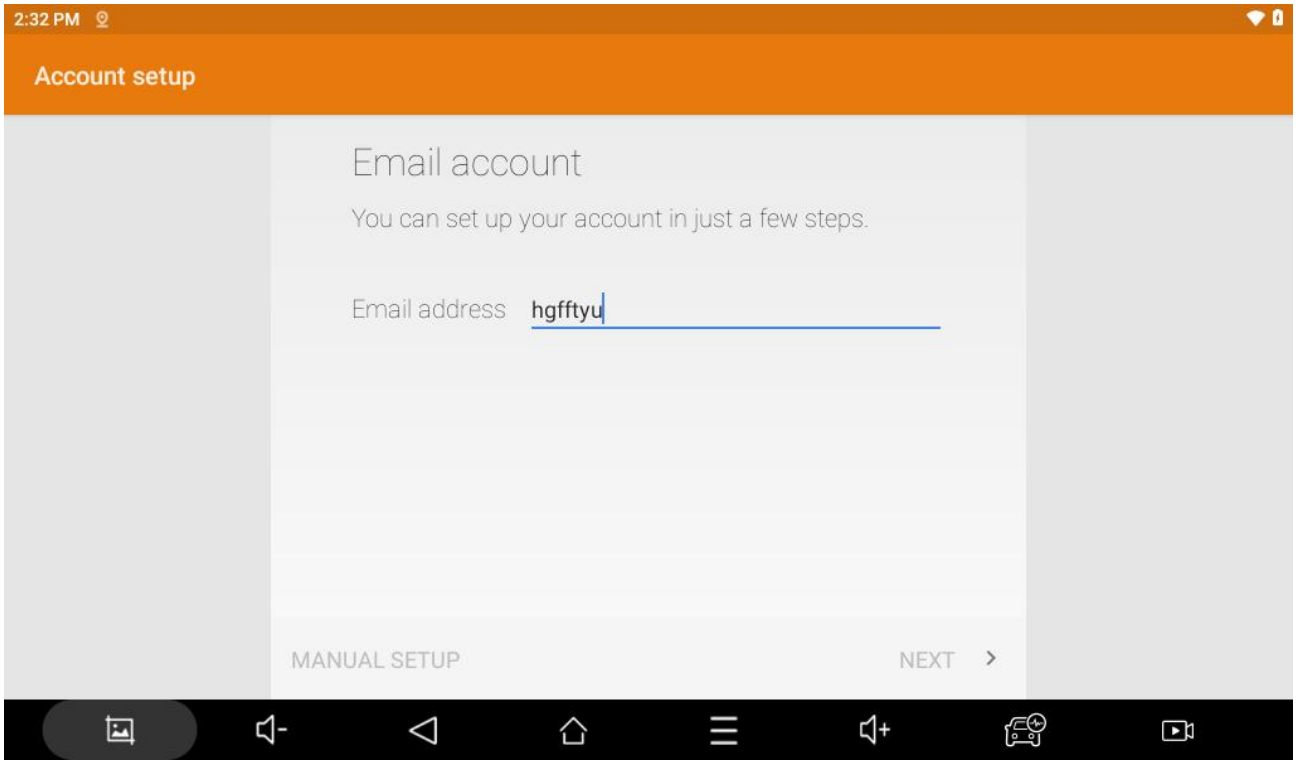
Step 3: Set up a custom app name(D8S as in example above), to generate a password (16 letters) to log into this custom app. Copy and save this password.

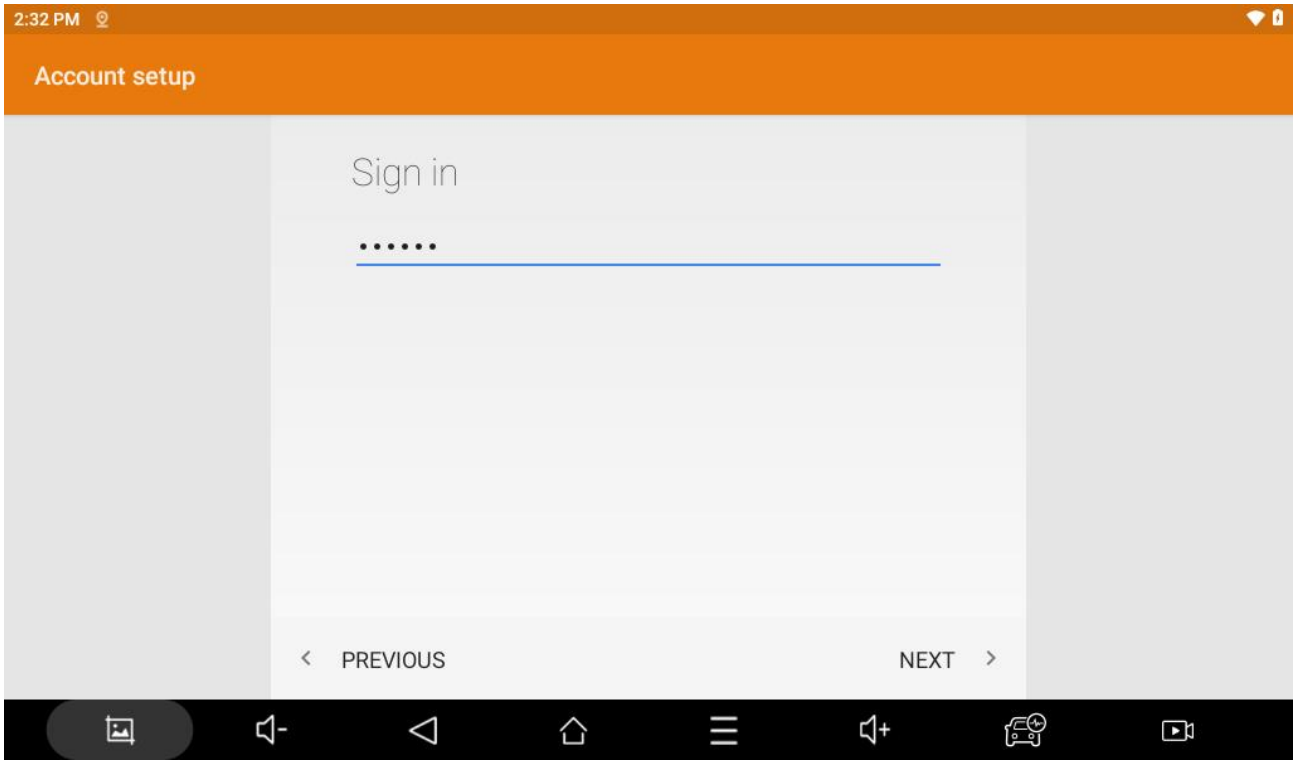


Step 4: Go to your Diagnostic Tool, swipe up to bring up the hidden toolbar menu and click the " " icon to add a new G-mail account.

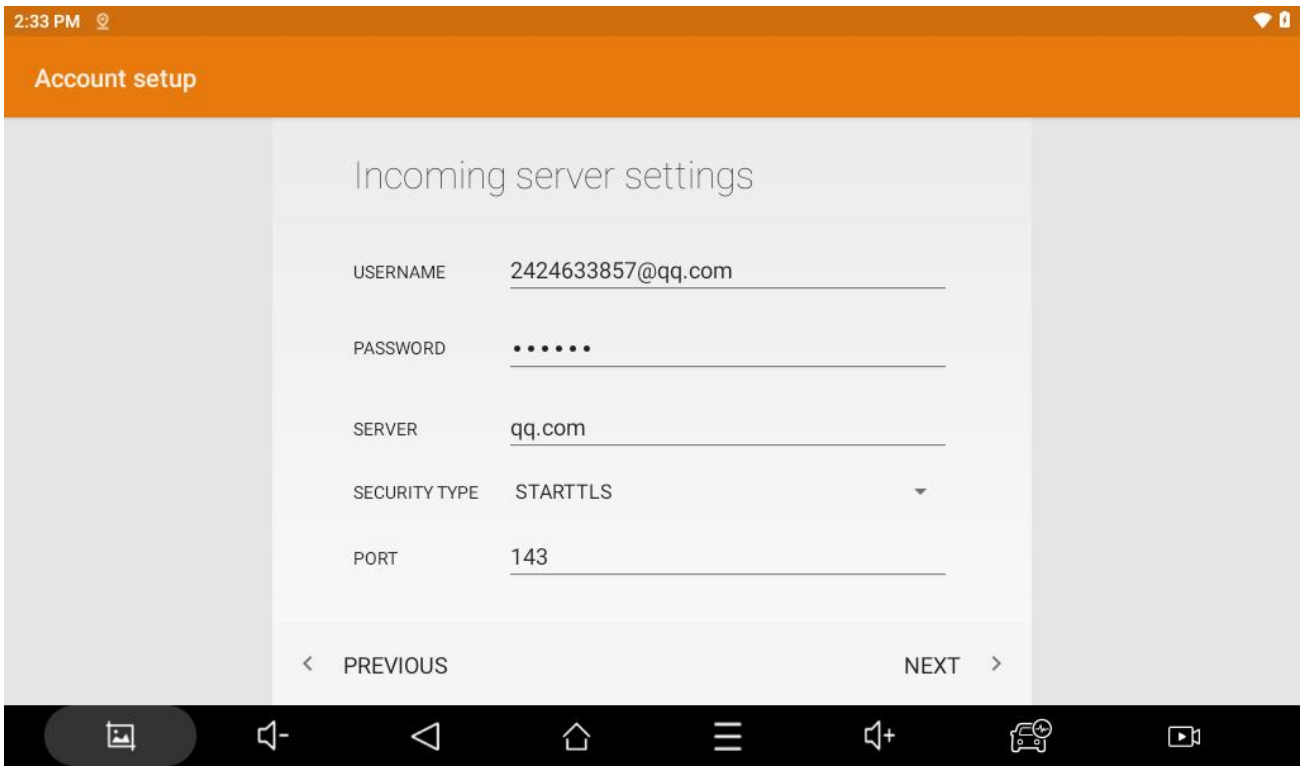


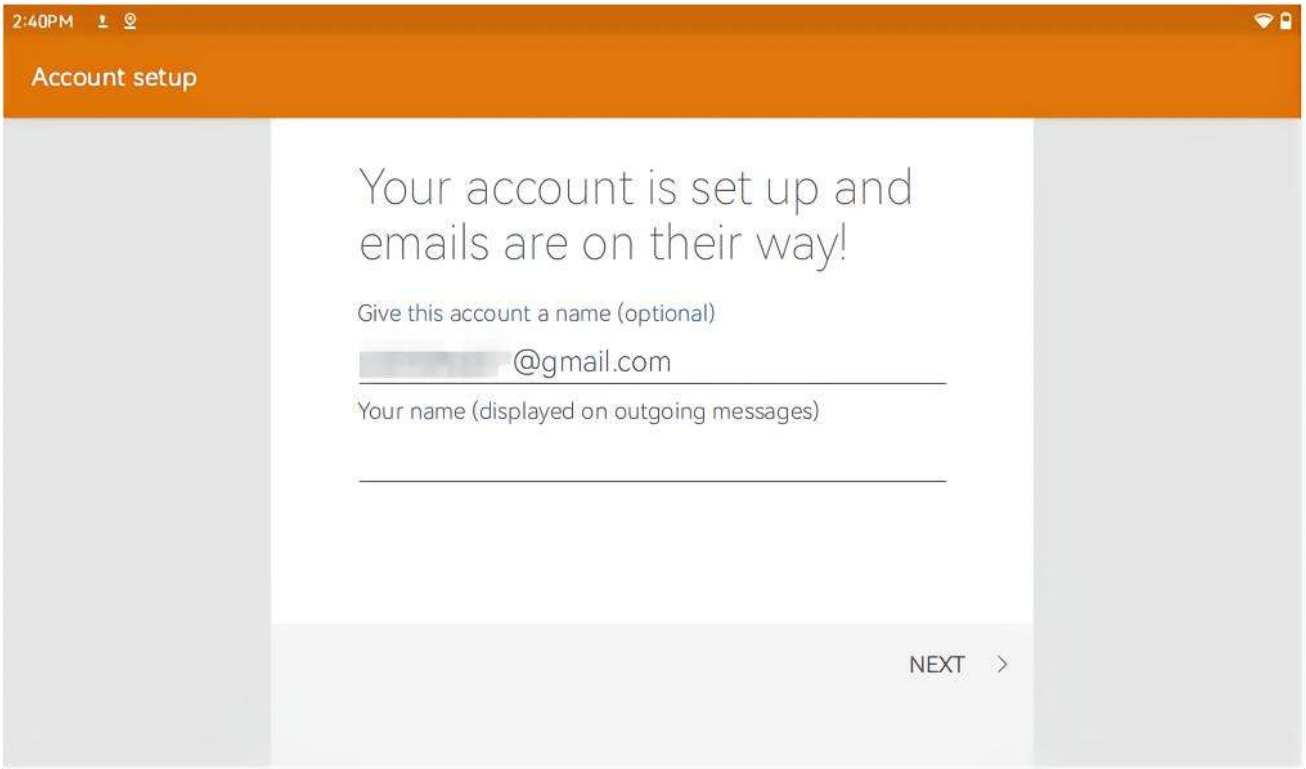
Step 5: Input your G-mail account and the app password (16 letters) and click "NEXT".





Step 6: Set the sync frequency and click "NEXT" until it displays "Your account is set up and emails are on their way".



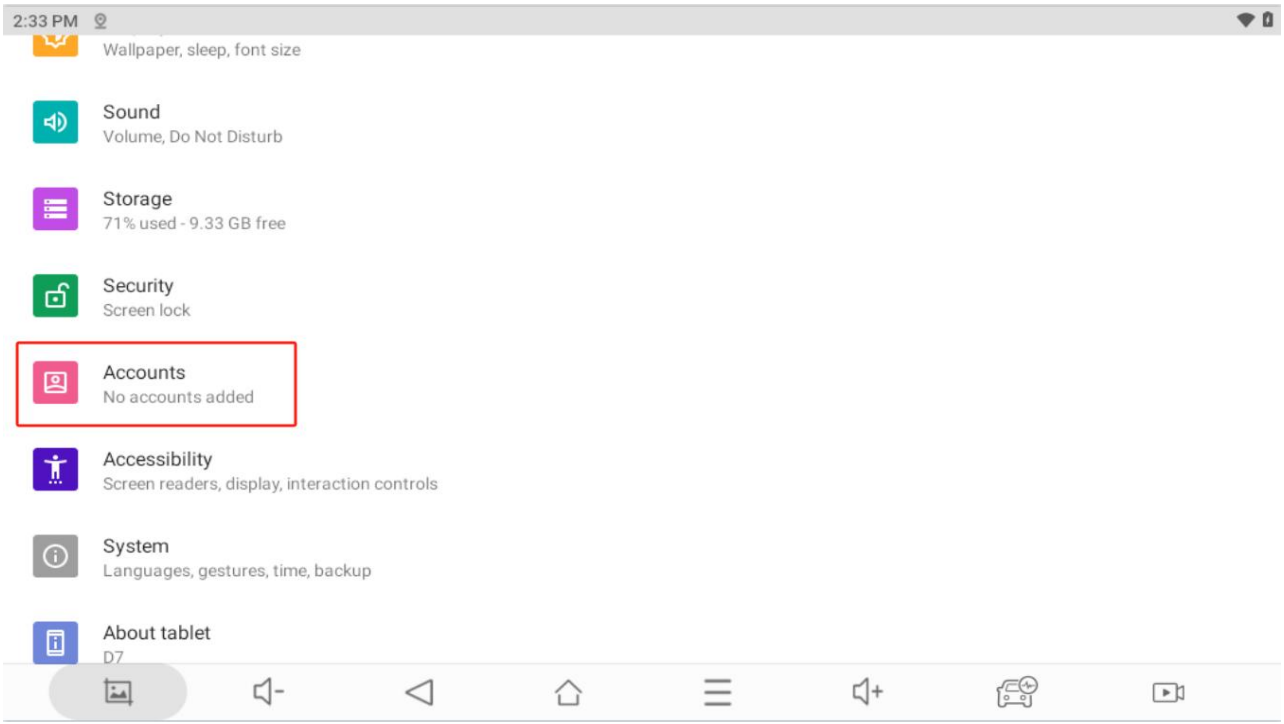


To Share Diagnostic Report via G-mail Account:

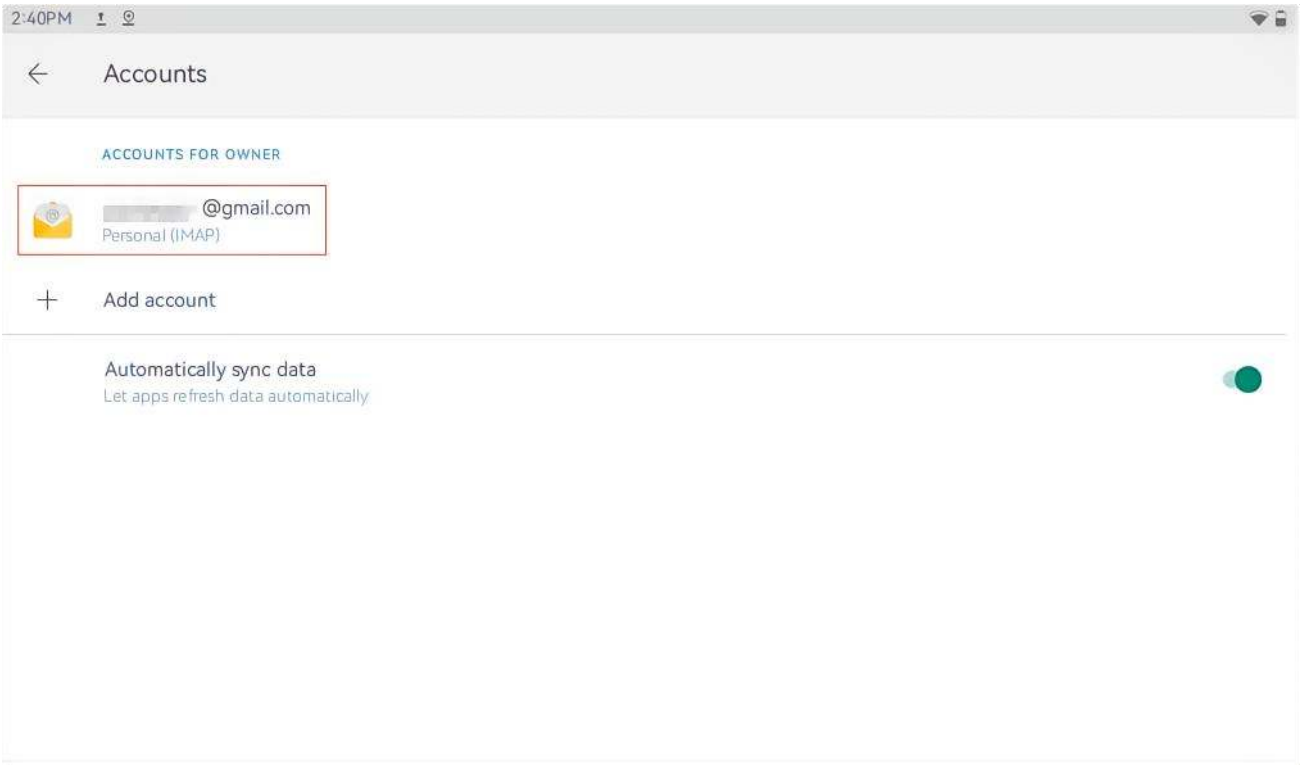
Go to Report> select the report you want to print> click "Print PDF Report"> click the job menu icon on the top right corner> Click "Share"> "Email" to go to Email composing page and sent the report via G-mail account.

10.2 Delete Email Account

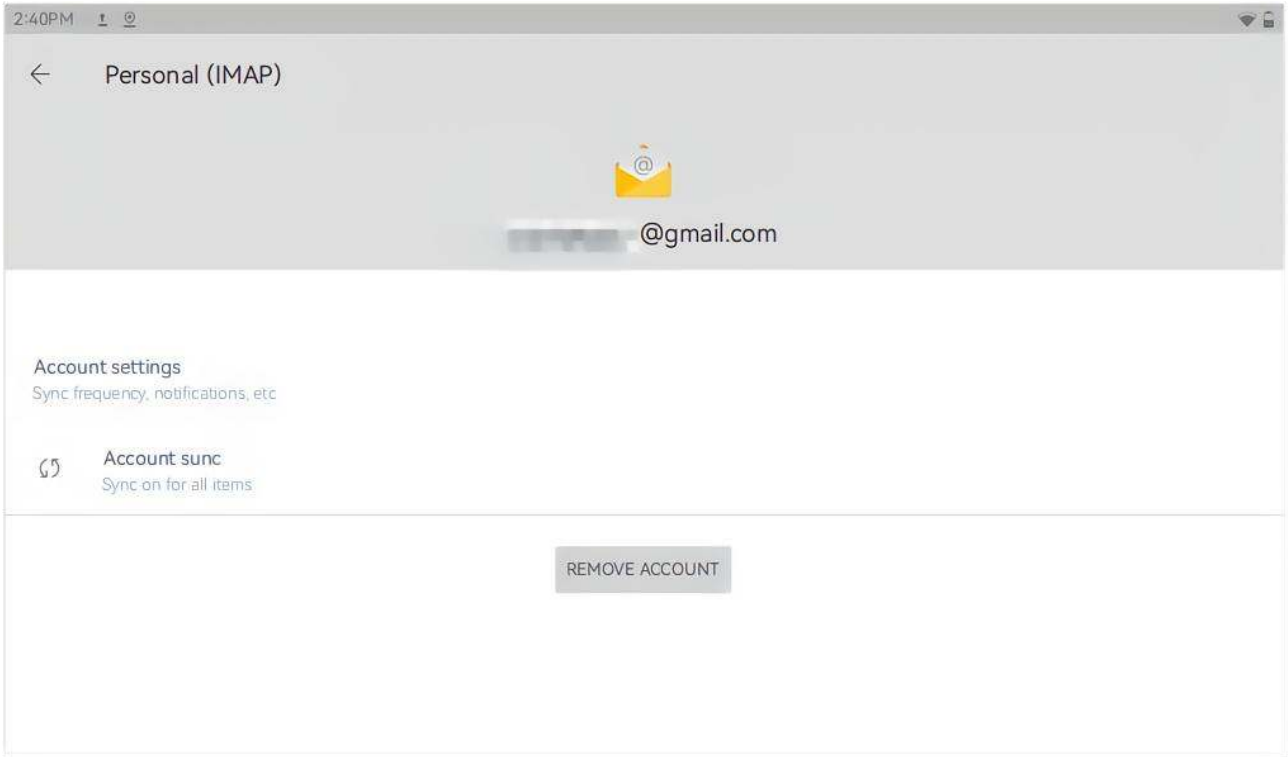
Step 1: Swipe up the hidden toolbar menu, click "Settings> Accounts".

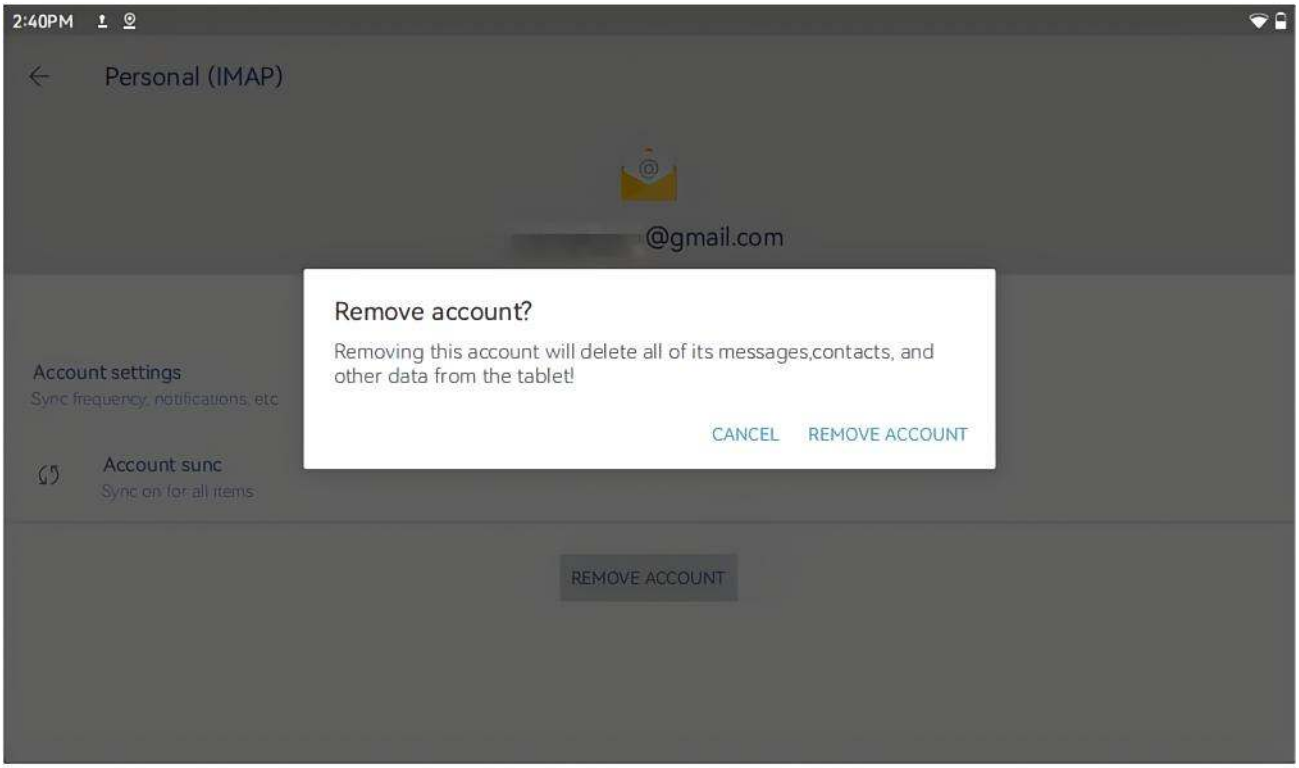


Step 2: Select the G-mail account you added.



Step 3: Click "REMOVE ACCOUNT" and confirm.





10.3 Printing Settings

To enable printing service on the Diagnostic Tool, you need to install Print Service App/Print Driver first. Please go through below checklist before the installation of the printing service:

10.3.1 Checklist for Installing Printing Service

- Make sure your printer supports Wi-Fi connection(Wi-Fi Direct)
- Check the brand, model of your printer
- Install a printing service (printer driver) that is compatible with your printer. You have two options:

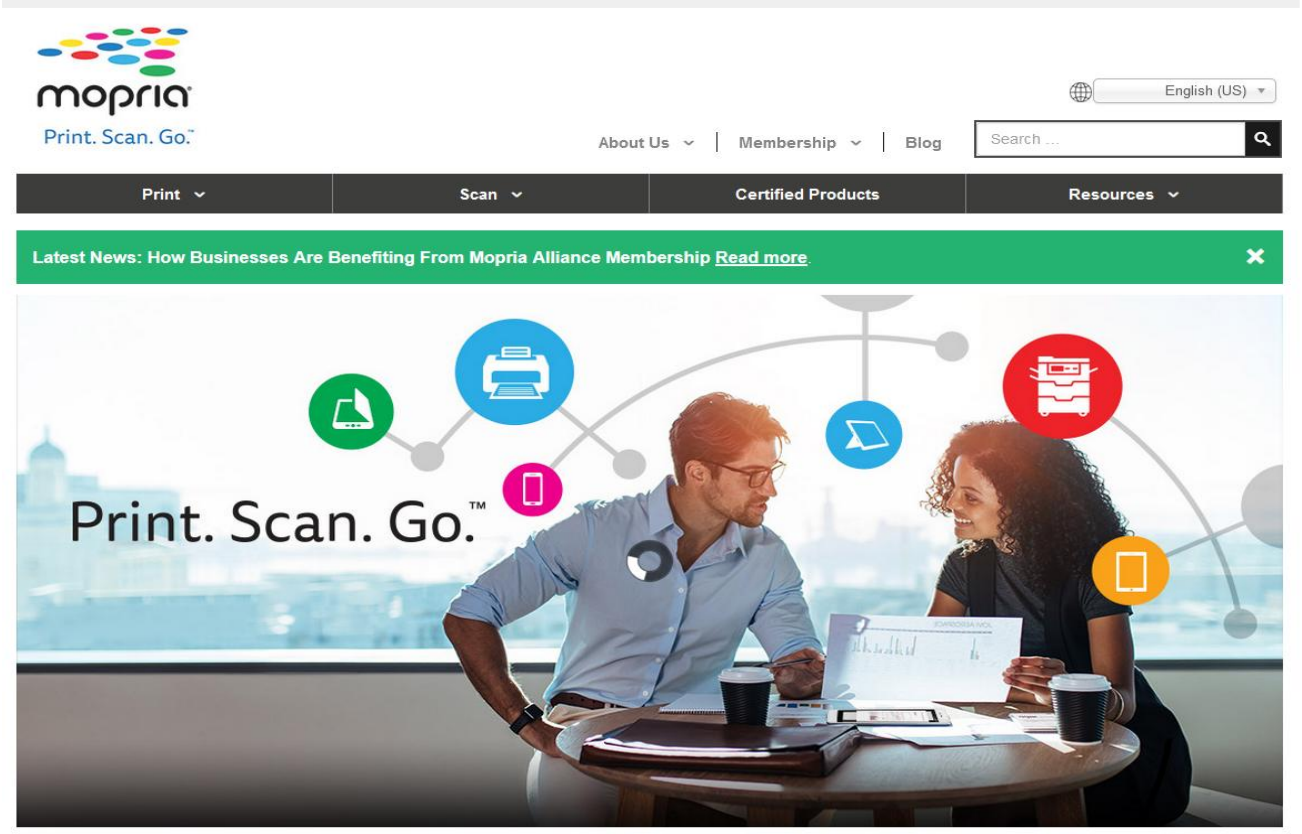
Option 1: Install universal printer service app like Mopria

Option 2: Install official apk installation package for your printer. For example, HP Printing Service Apk for HP printer.

10.3.2 Download Mopria Print Service APK File from Mopria Website or download the specialized printer driver for your printer

Step 1: Visit Mopria official website (or visit the printer website) or click link https://mopria.org/ on your PC or laptop.

Step 2: Click Print> Print from Android> Direct Download.

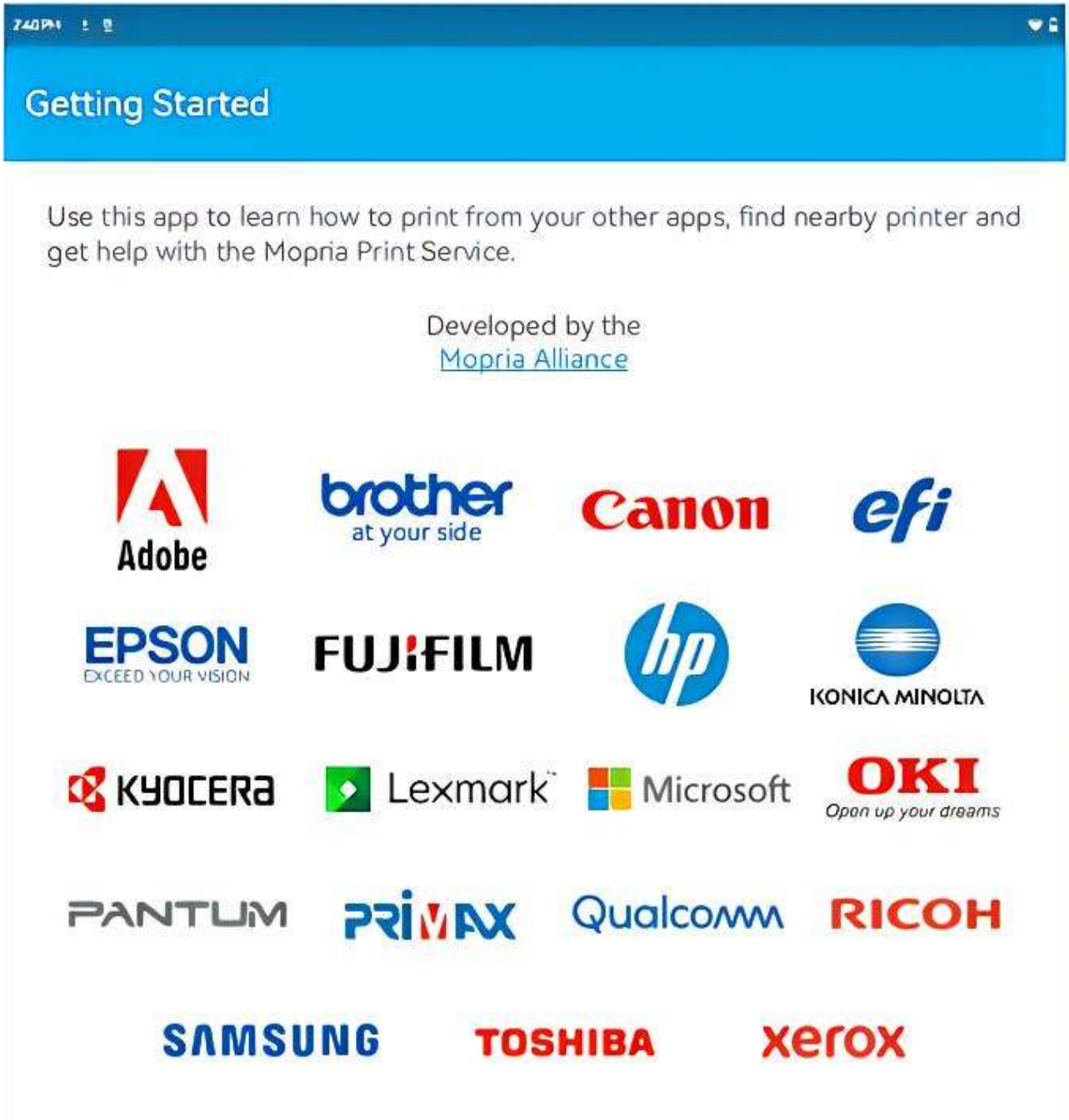


Step 3: Connect the Diagnostic Tool to your PC or laptop through USB Type-C cable attached and enable data transfer by swiping down from the upper left/right corner on the Diagnostic Tool.

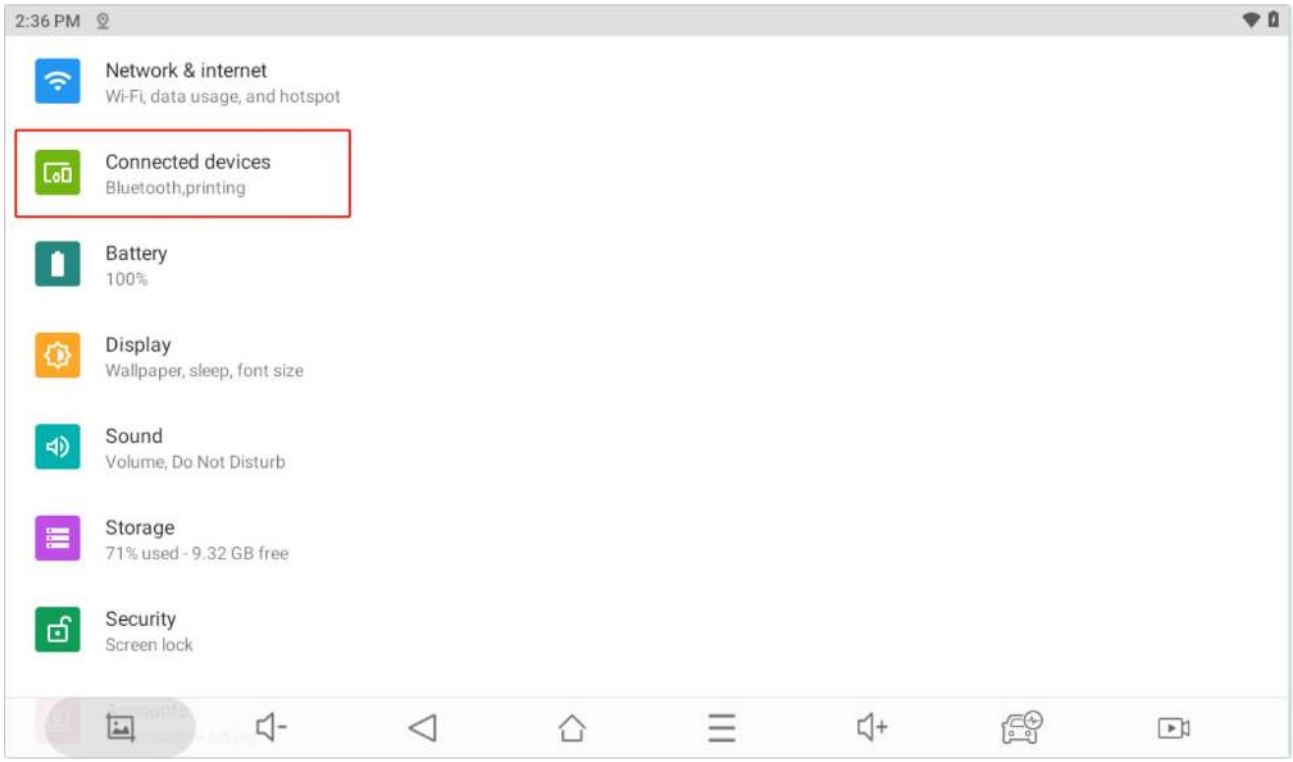
Step 4: Move the Mopria Print Service apk file to the Diagnostic Tool internal storage through Path: D8S-Internal Shared Storage- Download.

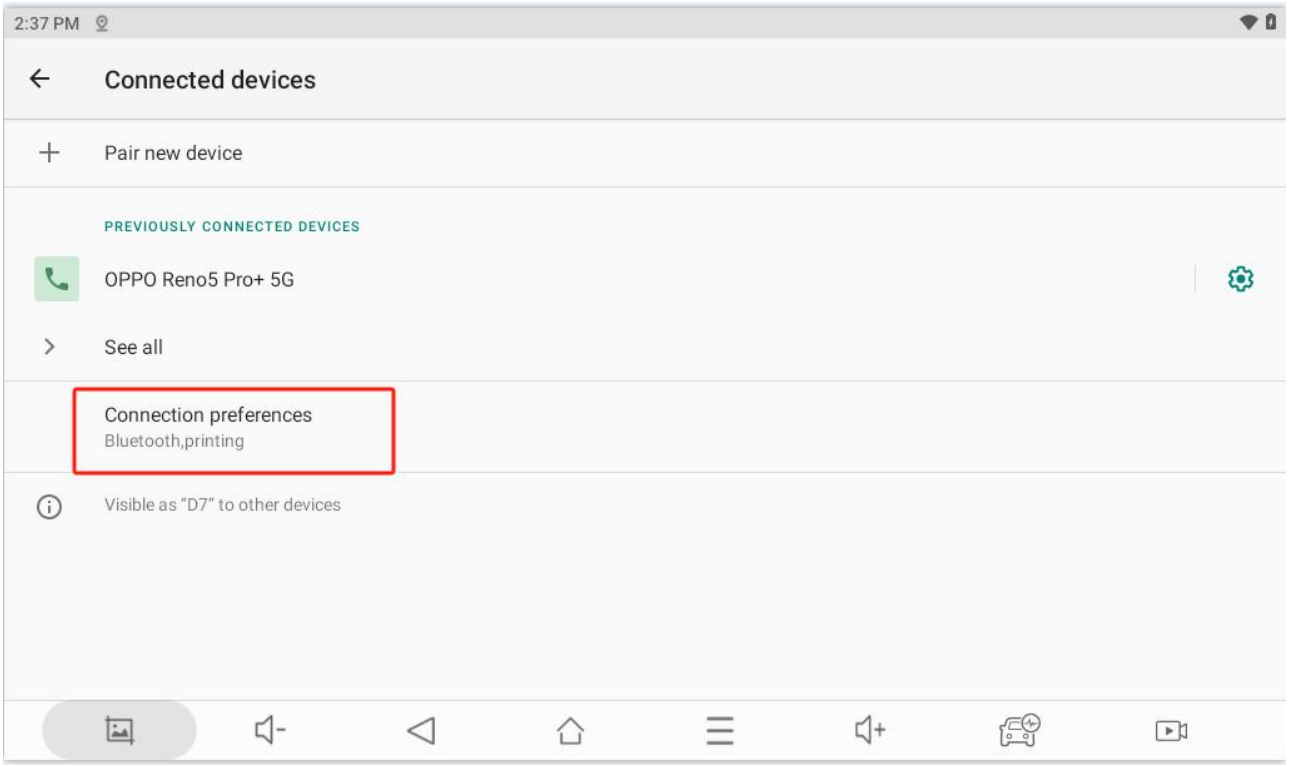
Step 5: Disconnect the Diagnostic Tool from the PC or laptop and go to ES File Explorer> Local> Home> Download to locate the apk file and click it to install on the Diagnostic Tool.

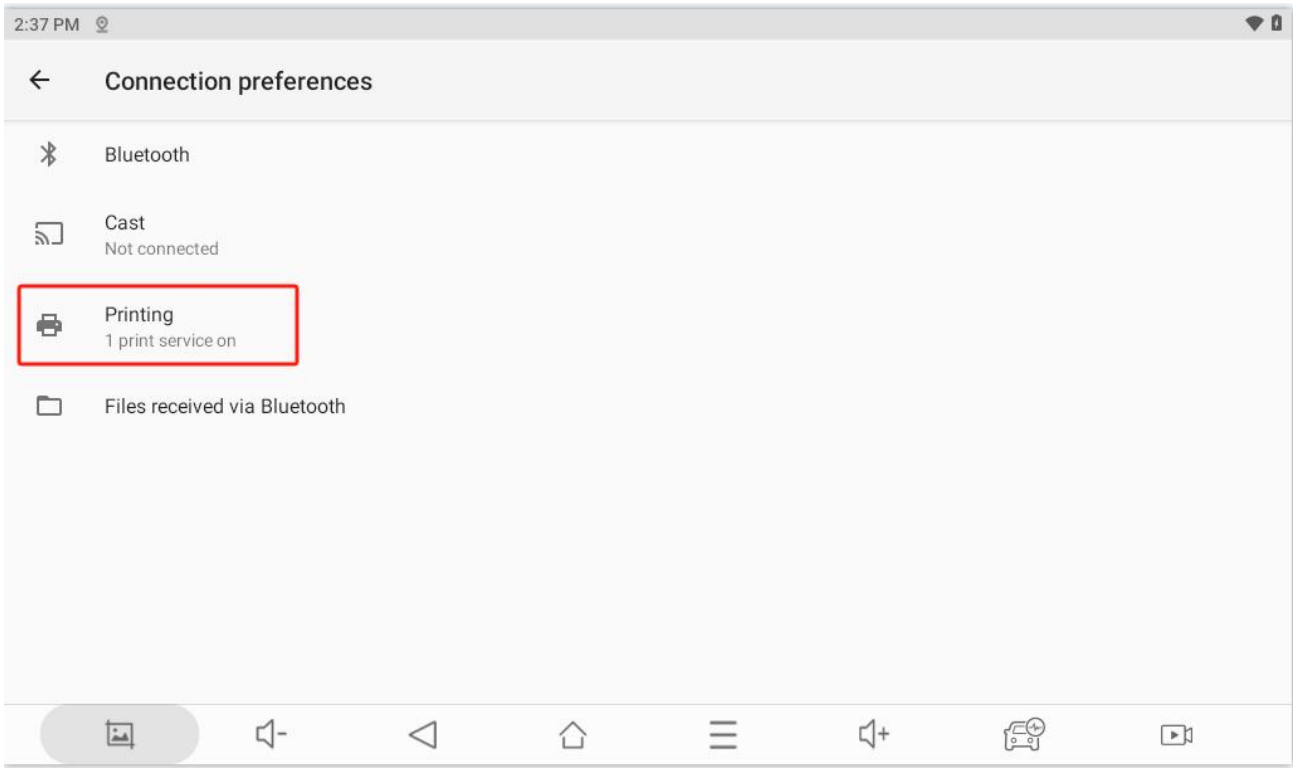
-

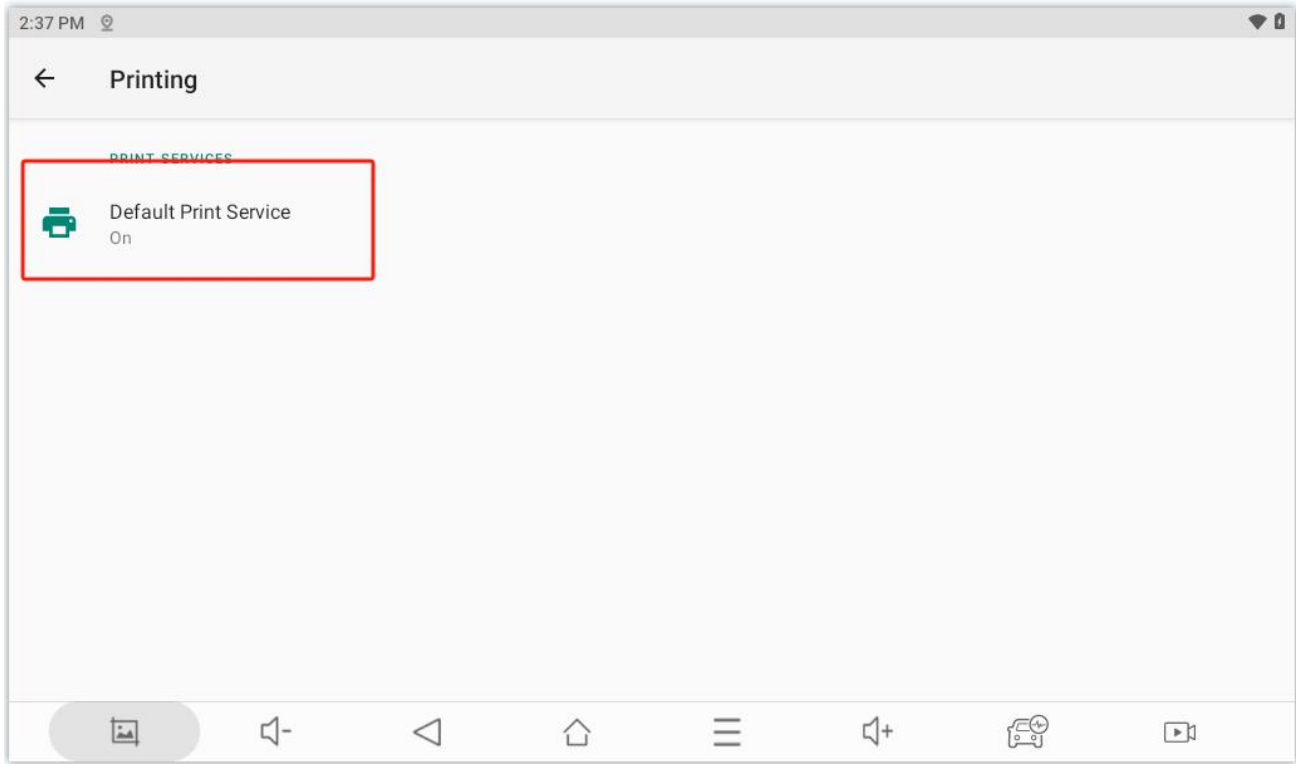


Step 6: Go to Settings Connected Devices> Connection Preferences> Printing> Mopria Print Service> Switch to On position> Select Printer> Accept the connection on the printer control panel.

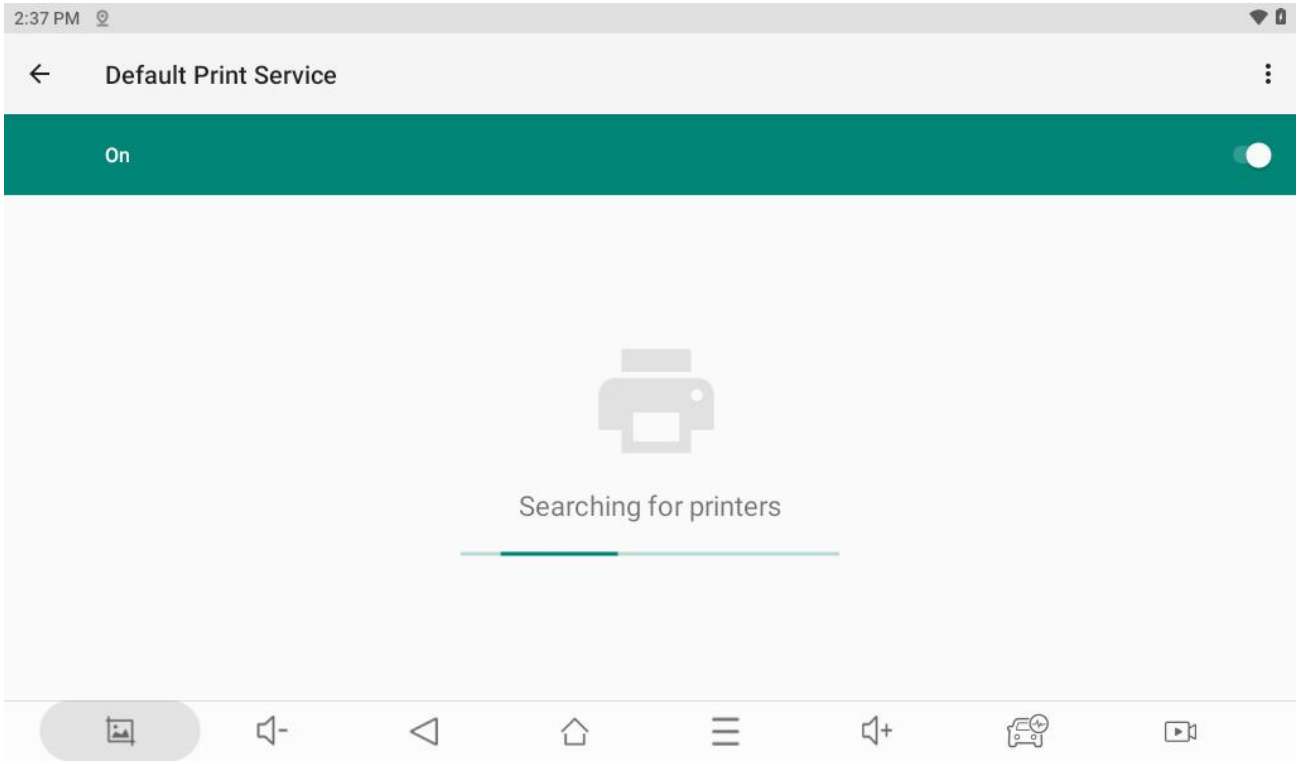








You may need to accept the connection to the printer on the printer's front panel to complete the setup process successfully.

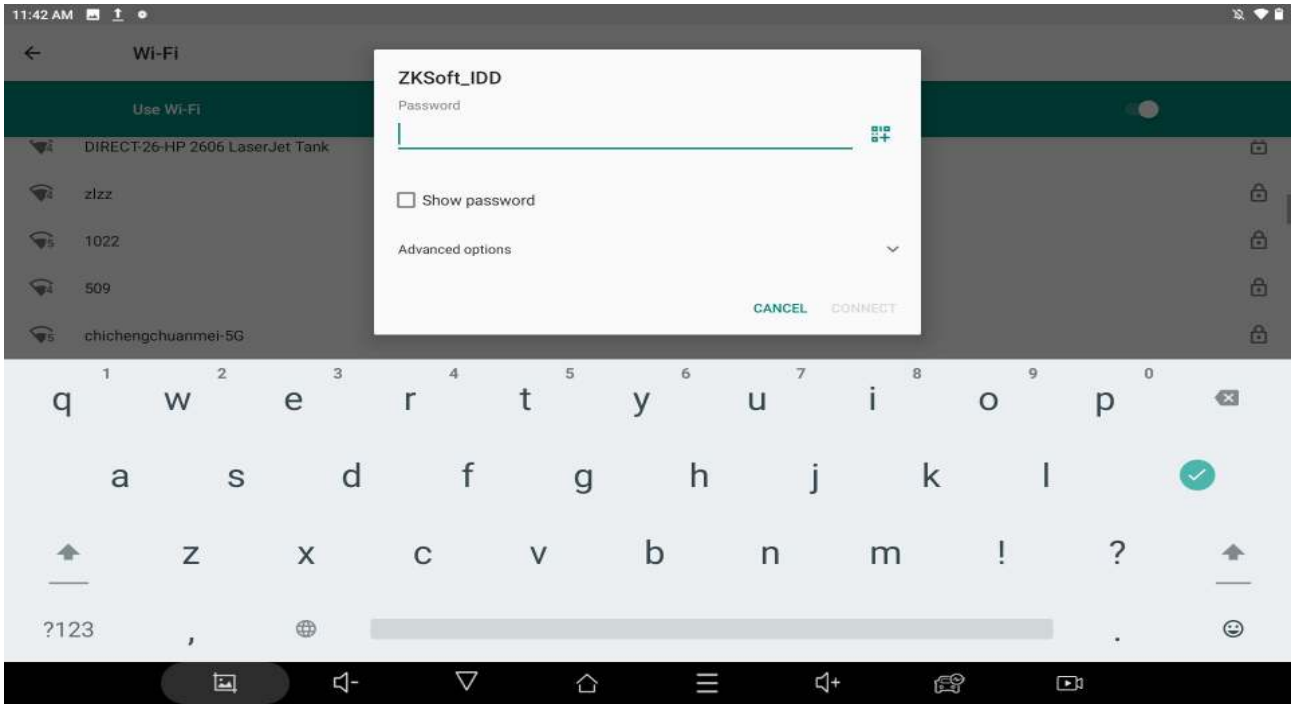


10.4 For Printer with Wi-Fi Direct

If your printer supports Wi-Fi Direct, please follow the steps below to connect the Diagnostic Tool to the printer directly:

Step 1: Swipe up the hidden toolbar menu and click “Settings”.

Step 2: Click Network & internet- Wi-Fi and click the printer Wi-Fi.



Step 3: Check the SSID and password displayed on the printer's front panel and use them to establish the Wi-Fi connection. If your printer doesn't have a front panel, print the printer information page on a piece of paper and use the displayed SSID and password for the Wi-Fi connection.

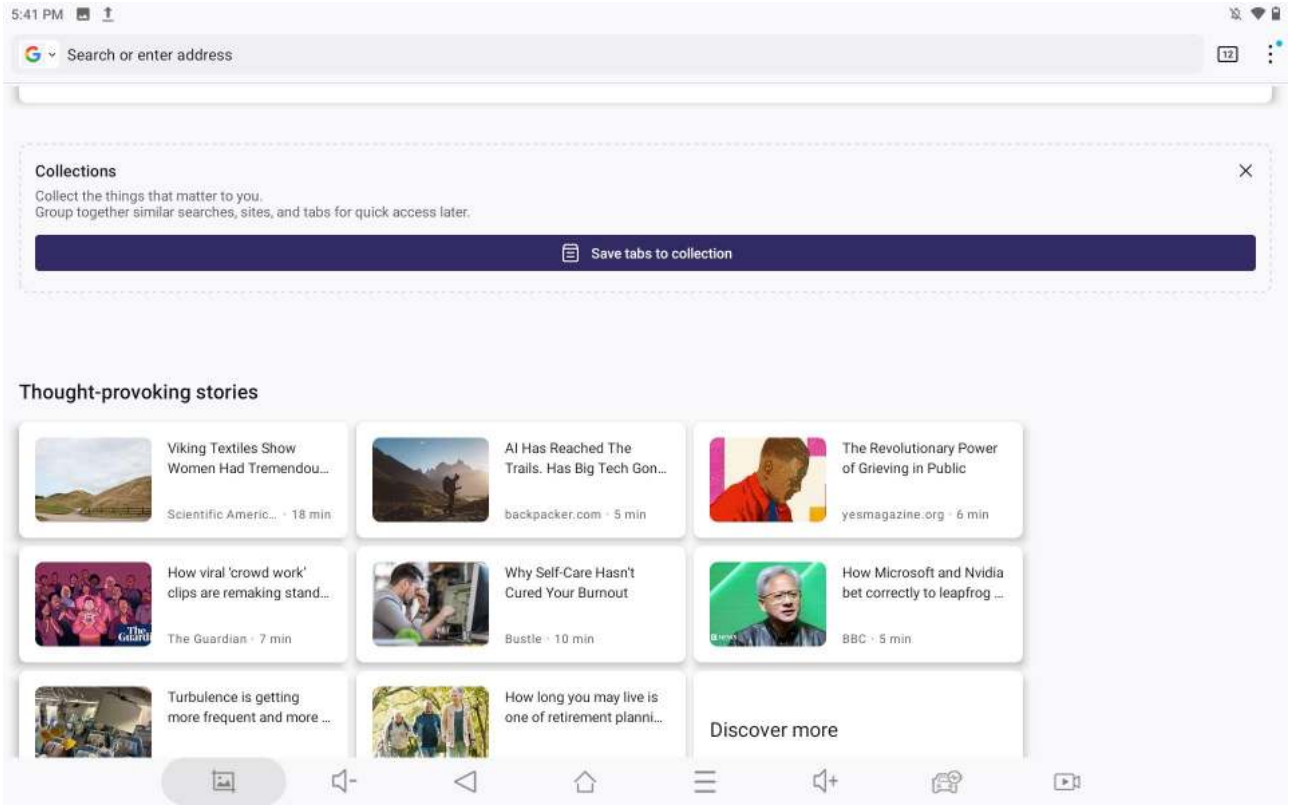
NOTE:

If you require technical support to set up a printer on your Diagnostic Tool, please contact our support team via support@xtoolonline.com. Kindly provide us with the name and model of your printer for assistance.

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11. Service Center

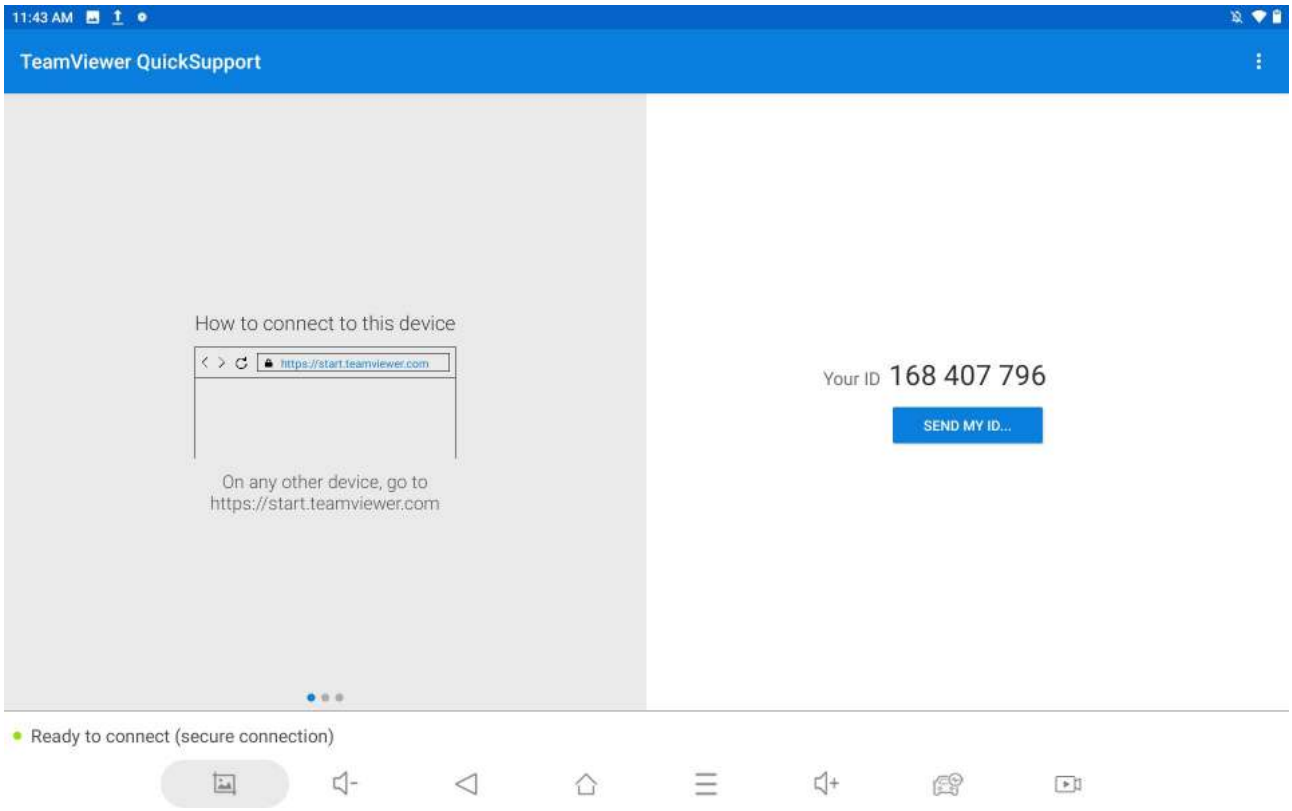
This chapter provides information on how to contact us for warranty claims, technical support, tutorials, marketing cooperation, business opportunities, or to provide feedback to help us improve your Diagnostic Tool experience.



11.1 Remote Control

This function allows you to request remote assistance from our technical team to operate the Diagnostic Tool for tasks that you are not familiar with.

Ensure that the Diagnostic Tool is connected to Wi-Fi. Then, click on the "Remote Control" icon to launch TeamViewer. Wait until it displays "Ready to connect (secure connection)" at the bottom left of the screen. Note down the TeamViewer ID located at the center right of the screen. Please schedule a remote assistance session with us in advance.



11.2 Data Logging

For software-related issues such as vehicle communication problems or function failures, data logging often provides crucial information for successful technical support sessions.

To ensure we can assist you effectively, please ensure your Diagnostic Tool remains connected to Wi-Fi for at least 15 minutes. Additionally, provide the Serial Number

(S/N) using the format D8S-00000. This allows our technical team to access the data logs from the server and begin analyzing the issue to find a solution.

11.3 App Logging

For issues related to the app, please request an app logging collection tool from our technical support team. You can make this request whether or not a remote assistance session is scheduled. The logging tool helps us gather detailed information about the app's performance and any specific issues you may encounter, ensuring more effective troubleshooting and support.

11.4 FAQ Database

This section describes how to access our FAQ database on our website. Visit www.xtoolonline.com and then click "FAQs" or click direct link https://www.xtoolonline.com/faqs

11.5 Training Center

To access our training videos, please visit our website and click"Support"> "Product Videos" or click the direct link https://www.xtoolonline.com support> product> videos.

11.6 User Programs

This section describes the programs we have for our customers.

11.7 Corporate Purchase

Whether you represent a company, school, government agency, or NGOs and you want to buy in bulk, reach us through email: Support@xtoolonline.com and get a bulk discount.

11.8 U-Fluncer Program

Whether you are an influencer that have large number of social media subscribers or amateurs that love to post content on social media platforms to to help the community on how to perform diagnostics , this program is for you.

12. Compliance Information

12.1 FCC Compliance / FCC ID: 2AW3IP805

This device complies with Part 15 of the FCC rules and Industry Canada's license-exempt RSSs.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

Cet appareil est conforme aux CNR exempts de licence d'Industrie Canada. Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interferences; et

2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

2. This device must accept any interference received, including interference that may cause undesired operation.

WARNING:

Making changes or modifications without explicit approval from the responsible compliance authority may revoke the user's authorization to operate the equipment.

NOTE:

This equipment has undergone testing and meets the requirements for a Class B digital device, as stipulated by Part 15 of the FCC Rules. These standards are intended to offer reasonable protection against interference when installed in residential environments.

This equipment emits radio frequency energy during operation, which can potentially interfere with radio communications if not installed and used as per the provided instructions. While efforts are made to minimize interference, there is no assurance that it will not occur in specific installations. If interference affects radio or television reception, you can determine if this equipment is the cause by powering it off and on. To mitigate such interference, consider the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

12.2 SAR

The device's emitted radio frequency power adheres to FCC regulations on exposure limits. To ensure safe usage, it's recommended to minimize human contact with the device during its regular operation.

FCC guidelines for wireless devices assess exposure through the Specific Absorption Rate (SAR), which is capped at 1.6 W/kg. SAR evaluations follow standard operational positions recognized by the FCC, where the device transmits at its highest certified power level across all tested frequency ranges.

Although SAR is measured at peak power, actual exposure during normal use tends to be lower. This is because the device adjusts its power output based on network requirements, utilizing only the necessary power for connectivity.

To maintain compliance with FCC standards regarding radio frequency exposure, it's prudent to reduce human proximity to the device's antenna whenever feasible.

12.3 RF Warning Statement

The device meets general RF exposure requirements and can be safely used under typical portable exposure conditions without restrictions. The prefix "IC" before the radio certification number indicates that the device has complied with the technical specifications established by IC (Innovation, Science and Economic Development Canada).

12.4 RoHS Compliance

This device complies with the European RoHS Directive 2011/65/EU, which restricts the use of certain hazardous substances in electrical and electronic equipment.

12.5 CE Compliance

This product conforms to the essential requirements of the following Directives and bears the CE mark accordingly:

EMC Directive 2014/30/EU
R&TTE Directive 1999/5/EC
Low Voltage Directive 2014/35/EU

13. Warranty

Limited Two-Year Warranty

Shenzhen XTOOLONLINE tech Intelligent Co., LTD.(the Company) warrants to the original retail purchaser of this XTOOL device that should this product or any part thereof during normal usage and under normal conditions be proven defective in material or workmanship that results in product failure within two year from the date of purchase, such defect(s) will be repaired, or replaced (with new or rebuilt parts) with Proof of Purchase, at the Company’s option, without charge for parts or labor directly related to the defect(s).

The Company shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device.

This warranty does not apply to:

1.Products subjected to abnormal use or conditions, accident, mishandling,neglect, unauthorized alteration, misuse, improper installation/repair or, improper storage;
2. Products whose mechanical serial number or electronic serial number has been removed, altered, or defaced;
3. Damage from exposure to excessive temperature or extreme environmental conditions;
4. Damage resulting from connection to, or use of any accessory or other product not approved or authorized by the Company;
5. Defects in appearance, cosmetic, decorative, or structural items such as framing and non-operating parts;
6. Products damaged from external causes such as fire, dirt, sand, battery leakage, blown fuse, theft, or improper usage of any electrical source.

14. Appendix

14.1 Navigation Path Quick Check

Misfire Counters: Go Diagnostic> Auto Scan> ISO 15765-4 Module $000007E8> On-Board Monitor Test> Misfire Cylinder 1 Data> Misfire count for last/current driving cycles

Fuel Loop Status: Go Diagnostic> Region> Make> Model> Year> System Selection> Full System Diagnosis> Engine Electronics> Live Data> Packet Data flow> Status of Oil Pressure Switches
Readiness Status(Smog Check): Go Diagnostic> OBD-II> I/M Readiness Status

Transmission Oil Temperature: Go Diagnostic> Region> Make> Model> Year> System Selection> Full System Diagnosis>Transmission> Live Data> Transmission Fluid Temperature Filtered

Cam Crank Relearn: Go Diagnostic> Region> Vehicle Selection> System Selection Engine or ECT or Powertrain- Special Function> Cam Crank Relearn or Crank Pattern Learning

Crankshaft Position Variation Sensor Relearn: Go Diagnostic> Region> Vehicle Selection> System Selection> Engine Control Module/ Powertrain> Special Function> Crankshaft Position Variation Learn

Service Bay Test: Go Diagnostic> Region> Make> Model> Year> System Selection> Full System Diagnosis> Engine Electronics> Actuation Test> EVAP Canister Purge Regulator Valve

VGT Turbo Calibration: Go Diagnostic> Region> Vehicle Selection> System Selection Drive Train Control Module> Special Function> Turbo Actuator Pre-Align/Self Calibrate

14.2 Terms & Terminology Quick Check

LTFT= Short for Long Term Fuel Trim

STFT= Short for Short Term Fuel Trim

MIS= Short for Misfire

I/M Readiness Status= Technical term for Smog Check

VGT Turbo Actuator Calibration= Turbo Actuator Pre-Align/Self Calibrate

Cam Crank Relearn= Cam Pattern Relearn

Crankshaft Position Variation Learn= Crankshaft Relearn= CASE Learning= Gear Learning

Actuation Test= Active Test=Component Test= Bi-Directional Control

14.3 FAQs

Q1. I haven't found I/M readiness in the menu.

A: Please enter Diagnostic>Select America/Europe/Asia>Click the "OBD-II" icon on the top left of the screen>Auto Scan/Select OBD-II Protocol>I/M Readiness

Q2. Unable to find live sensor data as the generic OBD2 scanner, like short-term/long-term fuel trim.

A: Please enter Diagnosis>Select America/Europe/Asia>Click the "OBD-II" icon on the top left of the screen>Auto Scan/Select OBD-II Protocol>Live Data>LTFT, STFT or similar term .

Q3. Unable to find the misfire data for my Ford/Dodge/Chrysler/Jeep cars?

A: Please Select Diagnostic> America/Europe/Asia>OBD-II (On the top left of the screen)>Auto Scan or Select OBD-II Protocol for your car>On Board Monitor Test>Select "Misfire Cylinder Data" or similar term.

Q4. How to export live data as CSV files?

A: How to generate CSV files: Live data>custom> Choose which live data you want to generate> Record > Save> Preview

How to find the CSV files: Report> CSV View> Choose the live data you have saved just now

Q5. I can not charge the battery now. I plugged in the cord, it's not charging. The battery is almost dead, only about 10% left.

A: 1. Try to use the original charging cable or OBD test cable to charge the device for more than six hours. (Using the original charging cable to connect the power supply with a stable 12V voltage is preferred)

2. Hold down the shutdown button for 15 seconds and observe whether the device can be turned on normally. (Do not connect the charging cable)

1. Connect the device to the computer through the USB cable to see if the device can be recognized by the computer.

4. If neither of the above methods successfully charges the device, please contact our technical support: support@xtoolonline.com and send a video showing the charging issue.

Q6. Can scanner tune up car?

A: Sorry, D8S Diagnostic Tool does not have the capability to tune up car.

Q7. Can this scanner still be used once the 3 year free updates are finished?

A: Yes of course, you can still use its last updated software when it expires, even when it expires after three years.

Q8. It was frozen until the battery went flat even I tried the reset button and the power button.

A: Please make sure you have updated the App to the latest version(To update the App to the latest, go to Settings> About> App> click the arrow at the right side to check the latest App version and update to the latest.). If yes, please reset to factory settings and check again. If it still does not work, please reach us directly via support@xtoolonline.com.

Q9. I cannot update, I've tried Wi-Fi and cell phone as hotpot, however, keep telling me failure connection.

A: This problem could reside with the setting of your router firewall or the network provider in your region that restricts access to the server, please check if your router firewall can access the server or not. If the problem still exists, please reach us via support@xtoolonline.com.

Q10. Any chance to install Google play store?

A: We are sorry that this diagnostic tool does not support installing Google Play store. However, if you want to install a third-party app, you can download apk file and install it on the diagnostic tool. We don't recommend installing other third-party apps as it may slow down its running speed.

Q11. Why should I connect the scanner to internet once a month?

A: It's a government policy compliant requirement to connect the device to Wi-Fi once a month to report IP location to prevent the device being used for illegal

activities. If connecting it to Wi-Fi did not solve the issue, please reach us directly via support@xtoolonline.com ASAP.

Q12. The auto scan/VIN cannot work on my vehicle.

A: As for auto scan/VIN, it does not cover all vehicles as some vehicles did not store VIN in the ECU, some VIN is not included in our coverage database, and some vehicles like Dodge work in "sending command, answering command" mode for vehicle communication.

You can try below alternative navigation methods:

- Turn on the ignition and not start the engine to try auto scan. For older vehicles, please turn on the ignition and start the engine and try auto scan.
- Manual input VIN.
- Diagnosis> America/Europe/Asia> Vehicle Selection> Automatic Detection.
- Diagnosis> America/Europe/Asia> Vehicle Selection> Manually Selection.

Q13. My diagnostic tool cannot connect to Wi-Fi.

A: If it shows "times out", please check your router and make sure that your router selected WPA2, not WPA3(maximum compatibility), and that it has not blocked the outgoing network traffic to non-US regions like China. Switching to mobile phone hotspot will most likely solve the registration issue. You can switch back to home Wi-Fi for software downloads when activation is done.

The second method is to connect to the Wi-Fi extender. If you have the Wi-Fi main modem and the extender. You can try to disconnect the diagnostic tool from the main Wi-Fi and connect it to the internet via the extender.

If it has connected to the internet but shows "connect internet to sync your device", the problem is that the country and time zone (china time zone) in the Android system didn't match what the network time zone was (pacific time zone) and is preventing it from syncing. Please just correct the time zone to pacific time zone by entering main screen> settings> System> Date & Time> "select time zone".

Q14. How can I change the menu language into Spanish?

A: To change the menu language, please send the S/N of the diagnostic tool to our support team via support@xtoolonline.com and get Spanish software program authorization. When the authorization is done, go to "Settings" on the diagnostic menu> language> Spanish to change the language of the Android tablet into Spanish, then go to "Updates" download all software programs. When all software programs in Spanish have been downloaded and installed, you may use the diagnostic tool in Spanish.

Q15. Why the scanner shows the report shared successfully but the email box didn't receive the report?

A: As the all the reports are sent by our email: service@xtoolonline.com, the email may be blocked even the device shows "send successfully". Since you use Gmail, you can follow below instructions to whitelist our sending mailbox: service@xtoolonline.com

https://downtimemonkey.com/blog/how-to-whitelist-an-email-address-in-gmail.php

Not everyone needs to set up the whitelist, since not all the email from our mailbox will be blocked by received mailbox. You may also check your junk email to see if there is any email from service@xtoolonline.com.

Q16. When you enter the diagnosis software program, it shows "license exception" or "Failed" error message.

A:Please try to delete the software programs by press and hold it and then re-download it again under the "Updates" to check whether this issue is solved or not. If not, please contact the our support team via support@xtoolonline.com with the S/N of the diagnostic tool.

Q17. Browser can access internet normally, but can not download the updates under "Updates", prompted to check the network connection in the Update.

A: Please switch to mobile hotspot or other Wi-Fi and try again.

Q18. When activating the device, shows error message "registration failure" after entering your email address.

A: Try mobile hotspot (recommended) or a different network to activate.

Q19. Received a used device with a lock screen password, unable to open the device

A: Contact our support team with the device's S/N via support@xtoolonline.com to resolve the issue.

Q20. How to use the function of "Remote Control"?

A: The "Remote Control" menu is generally used when you need tech support from us and we are not able to help you fix it via emails. Then we will set an appointment with you first at a time that is suitable for you and the engineers. You are not able to start a remote control without an appointment because we don't know that you started it. There are too many devices sold in the market, we are not able to remote with all customers if they start the remote at the same time without appointment.

Q21. What is the update fee of D8S? After my D8S pass the free subscription date, can I use it as usual as before?

A: The renewal fee of D8S after three years is $99 per year.

D8S has a 3-year free update validity period. Three years later, the previously downloaded and updated software packages can still be used, but the latest software packages cannot be obtained if you don't pay the renewal fee. If you want to update the D8S after three years, fourth year, or fifth year, you can contact us to extend 1-year period which costs $99.

After subscription, you can get all the newest software.

For example, if you decide to not get updates on the fourth year and fifth year, and would like to get updates on the sixth year, you just need to contact us to extend the period which costs $99, then you can get all the newest software and you can get updates for a whole year.

Q22. How can I subscribe the update on my D8S?

A: The update fee for the D8S is $99 per year. If you wish to subscribe, please proceed by transferring the payment directly to info@acartool.com via PayPal. Once the transfer is complete, kindly provide us via support@xtoolonline.com with a screenshot of the transaction. We will promptly add the update to your device within 24 hours.

Q23. I don’t want to register an account. Why I failed to perform the functions at the trial mode?

A: Trial mode is not designed for vehicle coverage or compatibility checks. Its main purpose is to offer practice and help users become familiar with the functions and user interface of the diagnostic tool. Therefore, the function will limited if you don't register a new account, so we recommend that you register an account to use the tool on your vehicle, which will be more convenient.

Of course, if you still fail to perform the function you want after registering an account, please feel free to contact us via support@xtoolonline.com with the following information:

1. SN printed back on your device
2. VIN of your vehicle
3. the functions you tried to perform but failed

Q24. When using the trial mode, do I need to connect my device to the Internet/ Wi-Fi?

A: No, you don't need connect your device to the Internet/ Wi-Fi when you are in the trial mode.

Q25. Shall I connect my device to the Internet/ Wi-Fi all the time?

A: No it doesn't need an Internet connection all the time. You just need to register it and download the updates with internet connection. For some special vehicles like Peugeot, scan tools need to be connected to the Internet, because it is required by the manufacturer. It will require internet connection when you are doing some advanced features like ECU Programming.

Q26. Does your tools can support all the functions on all vehicles?

A: All our tools are comprehensive diagnostic tools that can work on many vehicle brands, but it cannot do all the functions on all vehicles, just like any other scan tools in the market, even the factory scanner can only do functions on their own brand. Because not all vehicles come with the same functions when manufactured and even the vehicles of the same model might have various configurations.

Q27. Why I manually enter the VIN on my device, the letters of Q, I, O on the keyboard are gray?

A: Because the three letters Q, I and O are easily confused with other characters, such as the numbers 1 and 0. Therefore, VIN standards (including ISO standards and SAE standards and Chinese national standards) stipulate that the three characters of I, O and Q cannot be used. So it's normal that these three letters on the keyboard are gray. You can use the device normally.

Q28. How can I transfer the device's data to my phone or PC?

A: For your phones, If it is iOS, our tablet does not support file transfers to iOS devices. If it is Android, please agree to receive the transfer on your phone after clicking Bluetooth transfer on the tablet. If your phone is Android and it is still not work after you tried the steps above, please kindly try connecting to a computer to transfer the files.

Here are the steps for your reference:

Step 1: Connect the Diagnostic Tool to a PC by using a Type-C cable. Insert one end into the Type-C port on the Diagnostic Tool and the other end into a USB 2.0 port on the PC.

Step 2: Swipe down from either the upper right or upper left corner of the Diagnostic Tool to bring up the drop-down menu. Click on "Android System. Charging this device via USB".

Step 3: Change the option from "No data transfer" to "File Transfer".

Step 4: On the PC, check the connected devices and click on "D8S" to access and manage the files stored in the internal memory of the Diagnostic Tool.

15. Contact Us

Support

E-mail: support@xtoolonline.com

Website: https://www.xtoolonline.com/

For wholesale business or become our distributors:

business@xtoolonline.com/sales@xtoolonline.com

Share us with your friends, join our community to get tutorials, support and more. Scan QR code below to subscribe to our social media:

TikTok

Instagram

Facebook

Facebook Page: Search for "Xtoolonline"

Facebook User Group: Search for "XTOOL Official Online Diagnostic Tools"

Instagram: Search for "Xtoolonline"

TikTok: Search for "Xtoolonline"

YouTube: Search for "Xtoolonline"

Invent with us, test products before they hit market, help us make better products for everyone:

E-mail: inventers@xtool.com

Create social media content, post online and help our community:

E-mail: marketing@xtoolonline.com